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Progress report
of forest
administration
in the North-
Western Provinces
and Oudh,
1886

Year: 1886

N.-W. P. AND OUDH

FOREST DEPARTMENT

PROGRESS REPORT OF ADMINISTRATION

FOR THE YEAR ENDING 31st MARCH, 1866.

No. 72 of 1886-87.

From

CECIL BAGSHAWE, Esq.,

Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh,

To

W. C. BENETT, Esq.,

Offg. Secy. to Govt, N.-W. P. and Oudh, Revenue (Forests) Dept.

Dated Naini Tal, the 7th August, 1886.

Sir,

I have the honor to submit the annual progress report on forest administration in the Central Circle for 1885-86.

2. The first three chapters were nearly completed by Mr. Greig before he proceeded on furlough, for the remainder of the report and for final compilation I am responsible.

I have the honor to be,

Sir,

Your most obedient servant,

C. BAGSHAWE,

Offg. Conservator of Forests, Central Circle.

CENTRAL CIRCLE REPORT.

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CENTRAL CIRCLE.

N.-W. PROVINCES AND OUDH.

ANNUAL PROGRESS REPORT
OF
FOREST ADMINISTRATION,
FOR THE YEAR ENDING 31st MARCH, 1886

By Cecil Bagshawe, Esq., Officiating Conservator of Forests, Central Circle

INTRODUCTION.

DIVISIONS AND OFFICERS IN CHARGE.

Mr Greig held the post of Conservator throughout the year.

2 The following table shows the divisions and the officers who held charge of them at the commencement and at the close of the year :—

Divisions	*Names of officers in charge.*	
	At commencement of the year	At close of the year
Naini Tal	Mr Braidwood, Officiating Deputy Conservator, 3rd grade	Mr Braidwood
Kumaun	Mr Wilmot, Deputy Conservator, 4th grade,	Mr Wilmot
Garhwal	Mr Bagshawe, Deputy Conservator, 2nd grade	Mr Bagshawe
Ganges ...	Mr Brereton, Deputy Conservator, 1st grade	Mr Brereton
Jhansi	Deputy Commissioner ...	Deputy Commissioner
Lalitpur	Deputy Commissioner	Deputy Commissioner
Banda	Collector .	Collector

3. Mr Bryant, Assistant Conservator, 1st grade, was attached to the Kumaun Division from the commencement of the year to the 11th June when he was granted furlough for six months, and, on return, was transferred to the Oudh Circle.

Short description of divisions and mode of working.

4. The following are the important changes which have taken place during the year :—

(i) The Airdeo protected forest, area 26 square miles, of the Ranikhet sub-division of the Naini Tal Division, was handed over to the district authorities by order of the Local Government, under the conditions that it should be well looked after and handed back to the Forest Department when considered necessary. It is too far from Ranikhet to supply timber or fuel to that Cantonment, and there was no object in keeping it under the Forest Department.

(ii) A large tract of forest, estimated at about 132 square miles, which for years past had been set aside for the use of the late Kumaun Iron Works Company, was notified as a proposed reserve, handed over to the Forest Department on the 1st November, 1885, and is to be declared "Reserved" as soon as the boundaries are defined and the rights settled. A Forest Settlement Officer was duly appointed, and he commenced his work on the 13th

November, but from some cause unknown it took a great deal longer to execute than any such work has ever before taken; and at the close of the year it was not more than half finished. About 35 square miles of the upper portion of this area is added to the Naini Tal Division and the lower portion (say 97 square miles) to the Kumaun Division.

(iii) The termination of the lease of the Tehri-Garhwal forests and the non-renewal of it, so far as the portion which used to be in this Circle was concerned, furnished the opportunity, which had long been contemplated, of redistributing the areas of the Kumaun, Garhwal, and Ganges Divisions.

This redistribution took place at the commencement of the year. Kumaun, the largest Division, gave 198 square miles of its western forests to Garhwal, and the Ganges Division the smallest, received 142 square miles of the western forests of the Garhwal Division. A reference to Form No 49 will show that the forests at the base of the hills between the rivers Sarda and Ganges are now much more evenly distributed amongst the three divisions named. Up to 1884-85 the Tehri-Garhwal leased forests formed a part of the Ganges Division charge, and that was the reason why so small a portion of the Government reserved forests formerly belonged to that division.

CHAPTER I.

AREA AND BOUNDARIES.

I.—Area.

5. The following abstracts show the areas of the "reserved," "protected," and other Government forests, and the changes during the year, full details being given in Form No. 49 :—

Reserved Forests.

Divisions.	Area on 1st April, 1885.	Added during the year.	Excluded during the year.	Area on 31st March, 1886.
	Sq miles.	Sq miles.	Sq miles.	Sq miles
Naini Tal	(a) 7	(b) 35	... ...	42
Kumaun	636	(c) 97	(d) 198	535
Garhwal	414	(d) 198	(e) 142	500
Ganges	207	(e) 142	...	349
		A. r. p.	A. r p	
Jhansi	37	(f) 0 2 30	(g) 29 1 38	37
Lalitpur	140	...	...	140
Total ...	1,471	472	340	1,603

(a) Shown in the Ramkhet Division in the last year's report The Ramkhet forests are now amalgamated with the Naini-Tal Division

(b) The estimated area of the portion of the Kumaun Iron Works Company grant, handed over to the Naini Tal Division, which is to be declared "reserved" as soon as the boundaries are defined and the rights settled

(c) The estimated area of the portion of the Kumaun Iron Works Company grant handed over to the Kumaun Division, which is to be declared "reserved" as soon as the boundaries are defined and the rights settled

(d) The estimated area of the western portion of the Kumaun Division forests which has been transferred to the Garhwál Division.

(e) The estimated area of the western portion of the Garhwál Division forests which has been transferred to the Ganges Division.

(f) Surrended by the zamindars of Ruscoe

(g) Eighteen acres and 15 poles taken up for the Manikpur Jhánsi Railway. Rs 537-9-7 paid as compensation; eleven acres, one rood, twenty three poles handed over to the Public Works Department.

Protected Forests.

Division.	Area on 1st April, 1885.	Added during the year.	Excluded during the year.	Area on 31st March, 1886.
	Sq. miles.	Sq. miles.	Sq. miles. Sq. miles. Acres	Sq. miles
Naini Tal	* 95	...	26 34†	69
Lalitpur	4	...	...	4
Total ...	99	...	26 34	73

6. The Banda forest area is unchanged, except that 5¾ acres in mauza Chullu were taken up in the construction of the Manikpur-Jhansi Railway.

2.—BOUNDARIES.

7. **Naini Tal Division.**—All the boundary pillars were kept in repair. In the Naini Tal forests 135 village pillars were repaired at a cost of Rs. 22-1, and three of the Ranikhet forest boundary pillars cost 12 annas to repair; 722 pillars, the cost of which will be shown in the 1886-87 accounts, were built round such of the village lands in the newly-acquired forests of the Iron Works Grant as had been settled up to the close of the year.

8. **Kumaun Division.**—Rs. 147-13-9 were spent on repairing existing boundary pillars, and four new pillars erected to demarcate the Haldwani chauki parao, cost Rs. 4-12-2.

9. **Garhwal Division.**—All boundary marks have been maintained. Rs. 137 were spent on repairs of pillars.

10. **Ganges Division.**—The northern boundary is now properly demarcated by 63 pillars, 25 of which have been erected during the year at a cost of Rs. 78-8-2.

The pillars which demarcate the portions of forests open to rights and the plots of village lands are reported to be in good order, 27 of them having been repaired during the year at a cost of Rs. 25-9-6. The above remarks refer to the forests in the Garhwal district.

As regards those in the Bijnor district, the demarcation of the Chandi forest was, as noted in paragraph 14 of last year's report, undertaken by the Collector. The work is now reported as finished—277 pillars having been erected at a cost of Rs. 1,040, or at the rate of Rs. 3-12-0 per pillar. Half the charge for this work was paid by the villagers, half by the Forest Department.

Considering that the forest is in the level country at the foot of the hills, and bordering on the cultivated plains, and that the pillars are only about 18 inches in diameter and 2 feet in height, this seems a most exorbitant rate. Moreover, the Deputy Conservator reports that the masonry is of very bad quality, and that many pillars have in consequence fallen down or been injured by cattle or graziers since the completion of the work of demarcation.

According to this the work will have to be redone, and, if so, it will probably be better to demarcate the boundaries by cut lines with painted boards nailed on trees in place of pillars.

11. **Jhansi Division.**—The boundaries are fully demarcated; no new pillars were erected and none required repair.

12. **Lalitpur Division.**—Boundaries demarcated by stone-pillars which are in good order. Stone walls are being constructed round the Deogarh and Garauli fire-protected forests to form a protection against fire and a permanent boundary.

*Fifty-nine square miles were shown in the Ranikhet Division in last year's report. See note (a) above.

†The Arideo Forest, estimated at 20 square miles, was handed over to the district authorities. See paragraph 4 (i).

Thirty-three acres of Naini Tal Block I. were taken up in the construction of the Ranibagh-Ranikhet cart-road. One acre of Naini Tal Block II was sold for Rs. 316 to Mr. F. E. G. Matthews, *vide* Conservator's letter No. 128, dated 19th October, 1885, to Government.

13. **Banda Division.**—The demarcation of boundaries has received special attention on the line between the Government forests and native territory; 25 pillars were repaired at a cost of Rs. 29, of which Rs 7 were recovered from the native states.

Considerable progress was also made towards widening the boundary lines. No expenditure was incurred on this work as the wood cut on the lines was given in lieu of pay. This system can only be worked in the more accessible forests, as in those far removed from a market, or where the ground is difficult of access, it would not pay to remove such wood. The Collector is, however, pushing on the work, and hopes to complete it in a reasonable time and at a reasonable cost.

CHAPTER II.

SURVEYS, WORKING PLANS, AND ANNUAL PLANS OF OPERATIONS.

14. **Naini Tál Division.**—Surveys completed; working plan not yet received; but since the close of the year Mr. Fernandez has been relieved of all other work, and is now completing the plans for the Naini Tál and Ranikhet forests.

15. Annual plan of operations, with notes showing how far it was carried out, is given in Appendix D, and it will be seen that no changes of importance were made.

16. **Kumaun Division.**—Surveys completed; four map-sheets received during the year and four still wanting. No working plan received; but Mr. Hearle has been struck off all other work to enable him to complete it.

17. Annual plan of operations, with notes showing how far it was carried out, is attached. The only change of importance was deferring the introduction of fire conservancy in the new Dechauri Reserve owing to the villagers' rights not having been settled.

18. **Garhwal Division.**—Surveys completed, two map-sheets received during the year, and two still due. In consultation with the Superintendent of Forest Surveys, a native surveyor was employed during the season in entering on the maps such new roads, fire-lines, &c., as have been made since the maps were published; this cost Rs. 249.

19. Annual plan of operations with notes showing how far it was carried out is attached. The only deviations from the plan were the postponement of the extension of the Adnala road and cutting creepers in the Kakasgadi basin, North Patli Dun.

20. **Ganges Division.**—The field-work of the survey party was finished in April, 1885, and the maps are to be published as soon as possible. The valuation of the forests between the rivers Koh and Ganges was also completed during the year, and Mr. Hearle is now preparing the working plan.

21. Annual plan of operations with notes showing how far it was carried out is attached. There were no deviations from the sanctioned plan.

22. **Jhansi Division.**—There were no surveys.

23. Annual plan of operations with notes showing how far it was carried out is attached.

24. **Lalitpur Division.**—There were no surveys.

25. Annual plan of operations with notes showing how far it was carried out is attached. The only change of importance was a modification of the proposed cutting of green wood owing to variations in the demand.

26. **Banda Division.**—A complete set of map-sheets has been received from the Surveyor-General.

27. The annual plan of operations is attached with notes showing how far it was carried out.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

1.—Establishments.

28. The distribution of the superior staff is shown in para. 2.

29. There were many changes in the subordinate staff :—

(i) The Naini Tal permanent establishment was revised on the 1st November, 1886. The former establishment cost Rs. 242 and the new one Rs. 224 per mensem, Rs. 13 of the decrease being due to handing over the Airidoo forest to the district authorities—see para 4(*i*). From the same date a small temporary establishment, costing Rs. 23 per mensem, was sanctioned for the portion of the Iron Company's Forests which was handed over to this division.

(ii) Consequent on the redistribution of forests, described in paragraph 4(*iii*), the establishments of the Kumaun, Garhwál, and Ganges Divisions had to be revised. And in the Garhwál Division the establishment of forest guards was recast in order to bring the senior men on to the permanent establishment :

(iii) An experienced Forester was sent from the Garhwál Division to Bánda in October, 1885, and the Collector reports that his establishment is now on a better footing, and that the new Forester has worked satisfactorily.

(iv) Of the eight members of the forest staff referred to in paragraph 34(*iii*) of the report for 1884-85, one man (Forester Devi Dutt) died, I regret to say, in May, 1885, two men (Forester Bagh Singh and Forest Guard Jot Ram) passed the final examinations in April, 1886, subject to the final examination in surveying on the return of the Superintendent of Forest Surveys to Dehra Dún ; whilst Forest Guard Upendra Dutt will, it is expected, pass out in October, 1886. These men joined the Forester's class. Bagh Singh and Jot Ram have rejoined their divisions.

Of the four probationers, one man (Brijkishore Satpatty) resigned his appointment from Bareilly, where he had proceeded on leave preparatory to joining the school ; a second man (Kedar Nath Banerji) was allowed to resign after he had been at the school about a month. The other two men, Chinta Mani Joshi, a resident of Almora, Kumaun, and Muhammad Yawar Hosein, a resident of Budaun, should pass out in October, 1887. They have been favourably reported on by the Director of the School.

2.—General protection and breaches of Forest Laws.

30. The following is a summary of Form No. 50 in which is given full details of all the prosecutions :—

Divisions.	Prosecutions.				Convictions.	Acquittals.	Cases pending at close of 1885-86.	How tried.
	Pending from 1884-85.	New (of 1885-86).	Total for trial.	Concluded in 1885-86.				
Naini Tal ...	...	103	103	103	88	15	...	46 cases by Divisional Officer, 57 by Cantonment Magistrate.
Kumaun ...	...	...	...	...	...	...	...	
Garhwál ...	...	6	6	6	5	1	...	By Divisional Officer—
Ganges ...	1	5	6	2	1	1	4	1 by District Officer, Saháranpur. 2 " " " Bijnor. 2 " " " Garhwál. 1 " H. H. the Rája of Tiri.
Jhánsi ...	...	9	9	9	7	2	...	By the District Officers.
Lalitpur ...	...	15	15	15	12	3	...	
Total ...	1	138	139	138	113	22	4	

Including the prosecutions pending from 1884-85, but excluding those pending at the close of 1885-86, the percentage of convictions (113) to prosecutions concluded (135) is 83·7.

31. The following table shows the number of persons whose offences were compounded under section 67 of the Forest Act and the amounts realized in compensation :—

Divisions.	Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total persons.	Amount realized in compensation.	Remarks.
						Rs. a. p.	
Kumaun ...	...	71	2	45	118	288 0 0	The amount last year was Rs. 849. The decrease in crime is, I believe, due to Mr. Wilmot's strictness, proper supervision, and good administration.
Garhwál ...	...	71	...	6	176	399 11 0	The amount last year was Rs. 375. The slight increase is due to the transfer of the Kosi Sub-division to Garhwal.
Ganges ...	...	55	...	19	74	459 15 2	The amount last year was Rs. 184. Mr. Brereton reports that the increase is due to more cases having been brought to light and heavier compensation awarded in connection with bamboo-cutting.

32. Besides the above 240 persons, 167 of whom were jhapannis, were fined Rs. 329 in the Naini Tal Division for various petty offences. All of them confessed their guilt, and therefore no regular trial was necessary.

And in the Bánda Division there were 16 cases of theft or illegal felling of wood, 34 persons being involved, which were dealt with by the Sub-Deputy and Joint Magistrates of Karwi.

3—Forest Fires.

33. Naini Tal Division.

Year.	Area attempted to be protected.	Failures.	Actually protected.	Cost.
	Acres.	Acres.	Acres.	Rs.
1885	33,123	168	32,955	641
1886	35,043	121	34,022	481

Besides the areas noted, part of the new reserve, about 22,400 acres, was protected at a cost of Rs. 45 which is included in the expenditure given above. The Ranikhet protected forests are included in the Naini Tal figures :—

In 1885 the cost was 3·71 pie per acre.

In 1886 „ „ „ 2·63 „ „ „

Percentage of area attempted to be protected to total area of forest 49·14

Percentage of failures to area attempted . ·34

Three fires occurred by which 121 acres were burnt—96 acres in the Naini Tal forests, and 25 acres in the Ranikhet forests.

(a) 96 acres in Block No. 1 of the Naini Tal forest.

This fire occurred whilst burning fire lines. The ground was very precipitous, and some chir cones rolling down and a high wind prevailing the forest was fired.

(*b*) 1·7 acres in the Chilianao protected forest.

This fire took place on the 20th April. The origin of the fire could not be traced; the divisional officer thinks that the forest was willfully fired by villagers.

(*c*) 8 acres in the Kathallekh protected forest.

This fire took place on the 27th February. It was probably caused by some villagers leaving fire on a path where they had been smoking. Some men were arrested, but the offence could not be proved.

34. Kumaun Division.

Year.	Area attempted to be protected.	Failures.	Actually protected	Cost.
	Acres.	Acres.	Acres.	Rs.
1885	23,698	...	23,698	2,341
1886	23,041	...	23,041	2,222

In 1885 the cost was 18·96 pies per acre.
In 1886 „ „ „ 18·51 „ „ „

Percentage of area attempted to be protected to total area of forest, 6·44.
Percentage of failures to area attempted. No failures.

35. Garhwal Division.

Year.	Area attempted to be protected.	Failures.	Actually protected.	Cost.
	Acres.	Acres.	Acres.	Rs.
1885	1,87,342	203	1,87,130	12,291
1886	1,87,342	113	1,87,229	14,257

In 1885 it cost 12·59 pies per acre.
„ 1886 „ „ 15·15 „ „ „

The increase of Rs. 1,967 in cost is due to two fire lines in the North Patli Dún and in Kotah having been realigned, cut clear of trees, and patrolling paths made, and to the four fire watchers for May-June, 1885, having been charged in accounts after the close of the season. The ordinary charges for the fire conservancy of the year were Rs. 390 below those of 1885 :—

Percentage of area attempted to be protected to total area of forests ... 58·59
Percentage of failures to area attempted ... ... ·06

Four fires occurred by which 113 acres were burnt—

(*a*) Kotah forest, 9 acres burnt—a log was left smouldering during line burning and fire crept into the forest after the workmen left the spot. This fire occurred on the 13th January, 1886.

(*b*) Chilkia forest, Sandni Chour. This fire occurred on the 12th February, 1886; 25 acres were burnt. A contractor's hut in an open plain caught fire, and before the fire could be extinguished it spread into the protected forest.

(*c*) Chilkia forest. Bijrani Chour, 24 acres burnt. This fire occurred on the 4th March, 1886; cause not ascertained; it is believed to have been accidentally lit by a bamboo cutter.

(*d*) Chilkia Forest. Sukha sot, 55 acres burnt. This fire occurred on the 26th of April, 1886. When line burning a contrary wind sprang up and carried the fire into the closed forest.

36. Ganges Division.

Year.	Area attempted to be protected	Failures.	Actually protected.	Cost.
	Acres.	Acres.	Acres.	Rs.
1885	9 500	160	9,340	543
1886	14,629	36	14,593	1,114

In 1885 it cost ... ... 10·97 pies per acre.
In 1886 do. ... ... 14 62 ditto.

The increased cost is due to abnormal charges on the new area in the Kotri Dun brought under protection in 1886.

Percentage of area of forest attempted to be protected to total area of forests 6 55
Percentage of failures to area attempted ... ... ·02

Three fires occurred by which 36 acres were burnt. These were all accidental fires caused in burning fire lines.

The details are as follows :—

On the 3rd March, 1886, Jogi Chour, 16} ... ... } 25 acres
Do. 23rd April, 1886, ditto 8} ... ...
Do. 22nd April, 1886, Dabua 11

37. Jhansi Division.

Year.	Area attempted to be protected.	Failures.	Actually protected.	Cost.
	Acres.	Acres.	Acres.	Rs.
1885	1,483	...	1,483	50
1886	1,483	...	1,483	50

In 1885 it cost ... ... 0·47 pies per acre.
In 1886 do. ... ... 047 ditto.
Percentage of area attempted to be protected to total area of forests ... 6 28

There were no failures.

38. Lalitpur Division.

Year.	Area attempted to be protected.	Failures.	Actually protected.	Cost.
	Acres.	Acres.	Acres.	Rs.
1885	1 749	...	1,749	100
1886	1,749	...	1,749	100

It cost the same in both years, viz., ... 10·97 pies per acre.
Percentage of area attempted to be protected to total area of forest ... 1·89

There were no failures.

39. The following summary compares the fire conservancy operations of the years 1885 and 1886 :—

Year.	Area attempted to be protected.	Failures.	Actually protected.	Cost of the year.	Percentage of area attempted to total area of the forest.	Percentage of failures to area attempted.
	Acres.	Acres.	Acres.	Rs.		
1885	2,56 895	531	2,56,364	15,866	25 57	·20
1886	2,63,287	270	2,63,017	15,122	24 55	·10

The cost of protecting 33·123 acres of hill forests (the Naini Tal Division) during 1885 was Rs. 641, or 3·71 pies per acre. In 1886 the cost of protecting 35,043 acres of hill forests (the Naini Tal Division, omitting the area in the Iron Company's Grant) was Rs. 481, or 2·63 pies per acre.

The protection of 2,23,772 acres of Bhabur and plains forest cost during 1885 Rs 15,325, or 13 14 pies per acre. In 1886, 2,28,244 acres of Bhabur and plains forests cost Rs. 17,743 or 14 92 pies per acre.

40. The following summary shows the fires which occurred this year and the two previous years :—

Year	*Maliciously lighted inside the forests.*		*By workmen by accident*		*By villagers or travellers by accident.*		*By establishment when burning fire traces*		*Fires which crossed the fire traces from outside forests*		*Fires caused by lightning.*		Total number of fires	Total area burnt.
	Number of fires	Area burnt	Number of fires.	Area burnt.	Number of fires.	Area burnt.	Number of fires	Area burnt.	Number of fires	Area burnt	Number of fires	Area burnt.		
		Acres		Acres		Acres		Acres		Acres		Acres		Acres
1884 ...	7	1,015			4	776	5	4 061	1	10	1	4,196	18	10,058
1885	5	215	..	...	5	156	1	160	...	...	...	...	11	531
1886 ...	1	17	2	49	1	8	6	196	...	..	...	...	10	270

Fire conservancy this year again has been successful. The results are better than those of any previous year, but it must be noted that the frequent and heavy winter and spring rains conduced in a great measure towards securing such good results. The increase in cost is due to improvements made in permanent fire lines, and all tend to lower the ordinary annual charges in future years, while they should reduce considerably the chances of failure.

4 —Grazing and Fencing.

41. **Naini Tal Division** —There was no change in the area open to grazing. The dues in the Naini Tál forest amounted to Rs. 169. In the Ranikhet forests none but right-holders graze. All fences except that of the Siuni forest were kept in repair, and it was taken in hand at the close of the year.

Rs. 27 was spent in fencing during the year.

42. **Kumaun Division** —There was no change in the area open to grazing; 36 cattle stations were allowed to settle in Eastern Kumaun, their head men being bound by stamped agreement to observe rules. Rs 3,594 was paid as grazing dues by them and Rs. 7,000 was received from the District Officer on account. The cattle people in Eastern Kumaun cut and sell a large quantity of bamboos and dry wood and so help to swell the revenue considerably, but unfortunately the unhealthiness of those forests drives them away about the middle of April, and makes their working season very short.

The fact of the fines for illicit grazing having amounted to only Rs 11 during the year, as against Rs 65 in 1884-85 and Rs 94 in 1883-84, proves that the important improvement noted in para. 50 of last year's report was not overrated.

The fences round the four sample plots of sál forest were kept in repair.

43. **Garhwál Division** —100 out of 500 square miles are open to grazing, about 90 out of the 100 square miles being open to grazing rights. No fencing is now maintained.

44. **Ganges Division.**—No change in the area open to grazing and no fencing.

Although it is reported that there was no change in the areas open to grazing in the Kumaun, Garhwál, and Ganges Divisions, there were changes in all, consequent on the redistribution of the forests noted in paragraph 4(iii). But as the portions of forests between the rivers Ganges and Sardah, open to grazing during 1885-86,

are exactly the same as those which were open during the previous year, it is considered unnecessary to lengthen the report by giving details for each division. It may also be noted that in the closed portions grazing has to be provided for the large number of cattle used for exporting timber and other forest produce.

45. **Jhansi Division.**—The grazing dues fetched Rs. 389 and the rent of grass preserves Rs. 2,865, as against Rs. 347 and 2,468 during the previous year, and the price of a quantity of grass sold remains to be realized. Goats are no longer allowed to graze in the forests.

46. **Lalitpur Division.**—Of the total area of 92,269 acres 90,519 were open to grazing under passes granted to contractors.

47. **Banda Division.**—The receipts from grazing dues were Rs. 973 as against Rs. 793 in 1884-85 and Rs. 540 in 1883-84.

5.—Natural Reproduction.

48. The year 1885-86 was, like 1884-85, very favourable to young tree growth, the frosts having been very mild and the winter and spring rainfall abundant. The sál seeded very freely, and as there was a great deal of rain during May, 1886, there ought to be an exceptionally fine crop of seedlings—a plot of young sál forest in the fire-protected portion of the South Patli Dún range, which formerly suffered very much from frost, has been carefully watched for the last three years for the purpose of ascertaining to what extent protection from fire and grazing assists young sál to withstand frost. During the last two years it has almost entirely escaped injury; but we have yet to see what will happen during a winter when frosts are severe.

6.—Artificial Reproduction.

49. **Naini Tal Division.**—West face of China 1,000 deodars were brought from Ranikhet and planted. Many of the walnuts, horse chestnuts, and ash planted on very bare slopes have died, but some 200 or more of *pinus excelsa* are growing fairly well on that ground. The deodars in the oak forest are flourishing.

Moulani,—11 seers of deodar sown, 1,001 ash seedlings transplanted into pits.

Kiladhunga,—78 ash seedlings transplanted into pits.

Bhadli,—1,240 ash seedlings transplanted into pits.

Chorsa,—30 seers of *quercus incana* sown. This was a failure, and the plantation is not thriving.

Luita,—113 ash seedlings transplanted into pits.

In the upper fields of the Chatrani plantation a number of 3 to 4 years seedlings have died, but those in shade and on the lower fields are growing well.

With the above exceptions all the plantations are satisfactory.

The following summary shows the work done and the cost :—

	Rs.	a.	p.
Carrying from Ranikhet, digging pits for and planting 1,000 deodars ...	24	15	3
Digging pits for and transplanting 2,592 ash seedlings	38	8	3
Preparing ground and sowing 11 seers deodar seed got from Jaunsar ...	7	8	0
Collecting and planting 30 seers of quercus incana acorns	7	15	0
Weeding, clearing, and shading	64	6	0
Mali's pay	8	13	9
Total, Rs. ...	152	3	3

50. **Ranikhet Sub-Division.**—Here follows a copy of Mr. Craw's report on the Ranikhet nursery and plantations.

" 2. The following is a list of the fruit and forest tree seeds sown during the year —

	Name	lb	oz
1st *fruit trees* —	Apple	11	12
	Pear	11	14
	Apricot	152	0
	Peach	44	0
	Plum	6	0
	Sweet chest nut	1	4
2nd *forest trees* —	Horse chestnut	236	0
	Ash	10	0
	Cypress	10	6
	Cheer	3	8
	Acacia	16	0
	Gum	1	4
	Deodar	56	0
	Sneeze wood	2	packets
	Yellow wood	2	,,

" 3 With the exception of 10 lbs of apple and 10 lbs of pear seed procured from Messrs. Veitch and Sons, London, all fruit tree seeds were saved from trees growing in the nursery, and mostly from fallen and damaged fruit. The seeds procured from Messrs. Veitch and Sons were sown in February, and therefore have not yet germinated. With the exception of the sweet chestnut seed all others have done well. The sweet chestnuts did not ripen well, hence the seed failing to germinate.

" 4 Very little cheer seed was procurable, and the little gathered, together with the acacia seed, was sown in patches at Dalmoti and vegetated freely.

The horse chestnut, cypress, ash, and deodar sown in drills in the nursery have also grown well. The gum seed was saved from trees growing in the station, and it will be interesting to note the result attending the sowing of seed from acclimatized trees.

" 5. The four small packets of yellow wood and sneeze wood were received from W. R. Fisher, Esq, Officiating Conservator of Forests, School Circle, Dehra Dun, under cover of your No. 193, dated the 8th August, 1885, and sown the 18th August; but I regret to say the seed entirely failed.

" 6 At Jakhdeo 2,950 horse chestnut and 28 sweet chestnut trees were planted in January and are growing well.

" 7. List of trees distributed during the year :—

1st Fruit trees

To whom.	Apple.	Pear	Apricot.	Plum.	Peach	Nectarine	Cherry	Fig	Loquat.	Quince	Currant	Mulberry.	Sweet chestnut	Total
Villagers and house holders	2,523	1,458	1,557	318	1,371	48	297	390	47	115	136	7	10	8,277
Simla municipality	...	50	...	...	...	...	...	24	...	...	...	...	...	74
Mussoorie municipality	160	...	...	...	...	...	...	...	...	...	...	...	...	160
Botanical Gardens, Saharanpur	...	...	...	...	...	...	50	...	...	...	...	...	...	50
Naini Tal Forest Division	30	...	...	...	...	...	...	...	...	...	...	...	...	30
Total	2,713	1,508	1,557	318	1,371	48	347	414	47	115	136	7	10	8,591

2ND FOREST TREES.

	Walnut.	Horse chestnut.	Deodar.	Ash.	Cypress.	Cheer.	Gum and acacia.	Miscellaneous.		
Ranikhet Cantonment.	...	...	1,800	6,000	500	...	...	...		8,300
Almora Cantonment.	400	...	100	...	100	600	...	...		1,200
Naini Tal Forest Division.	...	...	1,000	...	...	...	...	...		1,000
House-holders and villagers.	459	135	542	...	67	...	130	158		1,494
Total ...	859	135	3,442	6,000	667	600	130	158		11,994
									GRAND TOTAL ...	20,583

"8. Revenue from the sale of fruit from all sources during the year.

Kind.	Seers.	Rs. a. p.
Apples	2,806¾	999 2 0
Pears	272½	272 4 0
Apricots	1,431	348 14 0
Peaches	175	158 0 0
Cherries	76½	103 14 0
Plums	128	202 8 0
Apples ... sold by auction	50	...
Peaches ... sold by auction	5	16 10 9
Plums ... sold by auction	25	...
	4,969¾	2,101 4 9
Less paid Messrs. Morrison & Co., and Rustumjee and Sons, Commission, &c., ...		222 14 7
Net amount realized, Rupees		1,878 6 2

"9. The prices at which the fruit sold were for—

	Rs. a. p.		Rs. a. p.		
Apples	0 2 0	to	1 0 0	per	seer.
Pears	0 0 0	„	1 0 0	„	„
Apricots	0 1 0	„	0 6 0	„	„
Peaches	0 10 0	„	1 0 0	„	„
Cherries	1 0 0	„	1 8 0	„	„
Plums	0 8 0	„	2 0 0	„	„

"10. Of the total quantity of fruit sold, *viz.*, 4,969¾ seers, the soldiers at Choubattia and Ranikhet received 480 seers of apples at 2 annas per seer and 485 seers of apricots at 1 anna per seer, altogether 965 seers of fruit.

"11. The season was exceptionally favourable to the production of fruit, there being no frost or hail to destroy the blossom or damage the fruit when formed. The only drawback to better results were the immense numbers of wasps and hornets which made their appearance in autumn when the apples, pears, and plums were ripening. In the nursery and in the forests beyond for a good distance all the wasps' and hornets' nests that could be found were destroyed, or the damage would have been very much greater.

"12. I may take this opportunity to state that one of the first planted apple trees produced seven maunds of very fine fruit. This may be considered a good crop from a tree which is annually cut for grafts and not allowed to attain its natural dimensions.

"13. There is another matter in connection with the produce of the nursery worthy of consideration, *viz.*, the production of good late-keeping apples for sale in

winter and early spring. With a view to test the keeping qualities in this country of one kind, an acknowledged good-keeping variety in England, the Norfolk Beaufin, I placed a few fruit in a cool godown, and notwithstanding they were gathered a little too early, they kept in good condition till the middle of April. In a properly constructed fruit-room, I believe, they would have kept in good condition much longer.

"The following is a list of all trees in the nursery—

1st Forest trees—		
Walnut		30,482
Horse chestnut		30,944
Ash		11,837
Deodar		4,228
Wild pear		26,810
Cypress		16,710
Cheel		823
Ghingaru		18,875
Willow		3,084
Miscellaneous		1,749
	Total	1,45,542
2nd Fruit trees—		
Apple, grafted		3,748
,, stock		12,100
Pear, grafted		5,166
,, stock		4,038
Apricot, budded		6,831
,, stock		17,600
Peach, budded		4,645
,, ,,		12,106
Nectarine, budded		45
Plum, budded		441
,, stock		1,200
Cherry, budded		524
,, stock		719
Loquat, stock		531
Currant		100
Fig		1,297
Quince		491
Mulberry		56
Sweet chestnut		323
		71,961
Fruit trees, larger stock—		
Apple		319
Plum		110
Cherry		179
Fig		76
Quince		25
Mulberry		20
Sweet chestnut		54
		783
Trees planted for fruit—		
Apple		1,617
Pear		1,030
Apricot		648
Peach		30
Plum		228
Cherry		105
Sweet chestnut		475
Orchard trees		4,133
Fruit trees, larger stock		783
Fruit trees and stocks		71,961
Forest trees		1,45,542
Total trees in nursery		2,22,412

"15. The sweet chestnuts in the nursery and at Jakdeo are growing vigorously and as a consequence bear no fruit.

"16. Of the uncleared land at the bottom of the nursery about 7½ acres have been cleared of jungle and terraced. There remain a few more acres to do, and when all is finished it will be planted with apples, cherries, and peaches—a number of trees of each kind being in preparation for this purpose."

During the year 8,591 fruit and 11,994 forest trees were given away as against 11,878 and 25,858 during the previous year; and 28 fruit and 2,950 forest trees were transplanted in the reserved forest.

Mr. Craw's suggestion regarding the increased production of good-keeping apples is sound and should be adopted. The Norfolk Beau-fin is a splendid apple, fairly good eating, and first rate for cooking, and keeps wonderfully well. Some years ago I took some of them into camp early in November, and though no special care was taken of them, and they were shaken about on the camels marching almost every day, they were quite sound and good when the last were used in January. In the large towns such apples would fetch a high price all through the winter months, when none but the dry bad Cabul kind are procurable.

The nursery is now a valuable property. It contains:—

Standard orchard trees	4,133
Young grafted and budded fruit trees	21,100
Stock fruit trees	50,561
Larger stock fruit trees	783
Seedlings of forest trees	1,45,542

It is kept in most perfect order, roads have been made all over it, and, except a very small portion, the whole area (50 acres) is terraced and planted.

The numerous plantations in the reserved forest look very promising, the growth of deodar, *pinus excelsa*, cupressus torulosa, and ash in some places being quite remarkable. It is worth noticing, too, that in the bad soil at Jakdeo, where other trees do not thrive at all, the sweet chestnuts have grown wonderfully well.

51. **Kumaun Division.**—There are no plantations in this division.

52. **Garhwal Division.**—The experimental sal plantation at Chopra was extended by 5 acres, making the total area sown with sál 20 acres. Unfortunately irrigation had to be stopped in February in order to repair the water-channels, and a hard frost cut back a number of the seedlings. But during the spring most of them sent up new shoots or threw out fresh leaves, and in May, 1886, the plantation looked well, the young trees being from nine inches to three feet in height. The partially stocked plantations at Rampur and Leti were protected from fire and grazing, and the Ramnagar and Mohan gardens were kept up.

53. **Ganges Division.**—There are no plantations. The encamping grounds mango groves at Chila, Haldúkhata, and Sanoli are growing well.

54. **Jhansi Division.**—Satisfactory progress is reported in the Magarpur, Ganupura, Bhusueo, Bungawan, and Dhakwan plantations, particularly the latter, which is said to be in a most flourishing condition and full of young sisham.

Rs. 463 were spent on plantation work, thus:—

	Rs.
Planting, purchasing, and protecting young trees and sowing seed ...	127
Watering	257
Constructing a well at Ganupura...	79

55. **Lalitpur Division.**—Rs. 50 were spent in preparing 10 acres of land in the Kuchnowda forest, sowing it with mowa seed and planting bamboos. The maintenance of the 10 acres of babul sowing during 1884-85 cost Rs. 25.

56. **Banda Division.**—Some teak seed was sown at the commencement of the rains, but did not germinate. Teak seed sometimes takes two years to germinate, and as some of the seed was dug up at "the close of the rainy season and found to be

"as hard as when first put in the ground," it will probably germinate during the rains of 1886.

7.—Cutting of creepers.

57. **Kumaun Division.**—Creepers were cut over about 16 square miles of the newly-acquired forests of the Iron Company's Grant at a cost of Rs. 55-8-0, and 4,912 are reported to have been cut by forest guards.

Garhwal Division.—Creepers were cut over 6,654 acres at a cost of Rs. 509, thus :—

			Rs.
North Patli Dun Range,	893 acres, cost	... ...	60
South Patli Dun	„ 2,133 ditto	... ...	142
Rehar	„ 1,460 ditto	... ...	137
Kosi Sub-Division	2,168 ditto	... ...	170

8.—Experiments and exotic trees.

58.—**Kumaun and Garhwal Divisions.**—With reference to para. 66 of last year's report, and in compliance with the instructions given in para. 14 of the North-Western Provinces and Oudh Government Resolution on that report, the six statements giving the measurements of each tree in the six sample plots as taken in March, 1886, are attached as appendix E. in full length. The two Amtanola plots now belong to the Garhwal Division.

The following table shows the average increase per tree in the six plots during 1884-85 and 1885-86 :—

Description of Plots.	*Name of Plots.*			Average increase of the three plots.
	Lackman Mandi.	Sanman Thapla.	Amtanola.	
	Inches.	Inches.	Inches.	Inches.
Two-acre plots, thinned, 1884-85	·83	·61	·78	·74
Two-acre plots, thinned, 1885-86	1·08	·71	·98	·923
Half-acre plot, in natural state, 1884-85 ...	·42	·34	·37	·376
Half-acre plot in natural state, 1885-86 ...	·45	·41	35	·403

From the above it will be seen that the increase of growth in the thinned plots was considerably greater in the second year after thinning than during the first year.

The two-acre and half-acre plots in all three of the localities are *side by side*, and therefore the experiment, so far as finding out the difference in growth between thinned sal forest and sal forest left in its natural state can be safely relied upon.

I would suggest that similar experiments be now commenced in *young* sal forest, when the poles are from 6 inches to two feet in girth ; they cost a mere trifle, and the records will be very valuable hereafter. One two-acre and one half-acre plot might be in the Kumaun Division and two similar plots in the Garhwal Division, the two acre plots to be thinned, and the half-acre plots to be left in their natural state. As the measurement of so many trees is a laborious undertaking, I would also suggest that the measurements be taken in March every *second* year instead of annually ; and in the *young* sal forest (trees from 6 to 24 inches girth) it will be quite sufficient for the purpose if the trees on one-fourth of the area are measured. To give a fair idea of the whole plot, the area on which the trees are to be measured should be two demarcated strips in each plot running through the centre one lengthways, the other breadth ways. With pegs and ropes and narrow paths cut in the grass along the stretched ropes, there will be no difficulty in temporarily demarcating the strips, and the sites for the pegs on the edges of the plots can be permanently marked by boards nailed on trees or piles of stones.

9.—Communications and Buildings.

59. The expenditure was as follows as compared with the previous year:—

Years.	Roads and bridges.	Buildings.	Other works.	Total.
	Rs.	Rs.	Rs.	Rs
1884 85	29 268	9,908	1,136	40 312
1885-86	20,388	9,810	1,460	37,658

Roads and bridges.—The repairs of existing roads cost Rs. 19,683, and the construction of about 28 miles of new roads and paths of all classes cost Rs. 6,705.

The repairs on two roads in Kumaun and Garhwal were heavy owing to local floods and land slips, but as a rule the monsoon of 1885 did not cause much damage to the roads, and the repairs in consequence cost Rs. 5,039 less than in 1884-85.

Rs. 958 were spent on about 89 miles of temporary roads and charged to timber expenses (A.I.a and A.II a).

60. The following statement shows the length of roads and paths constructed and maintained by the Department at the end of the year 1885-86 :—

Description of roads.	Length in miles.							
	Naini Tal.	Kumaun.	Garhwál.	Ganges.	Jhánsi.	Lalitpur.	Bánda.	Total.
In the bhábar and plains—								
Cart-roads	...	126	248	226	9	12	33	654
Bridle roads	...	45	184	71	...	...	...	300
Fire line paths	...	50	253	19	..	...	..	322
Bridle roads	66½	...	...	...	...	...	...	66
Total ...	66	221	685	316	9	12	33	1,342

There is a decrease in the total mileage of roads maintained in 1885-86 as compared with 1884-85 of 232 miles owing to the exclusion from the return of 89 miles of temporary export roads, the abandonment of some fire-paths, and the excision of a large number of hill paths from the list of roads. Owing to the redistribution of the sub-montane forest charges the roads were nearly all remeasured, fresh lists of roads compiled, and some corrections in length were made.

61. **Naini Tál Division.**—Repairing 27 miles of roads cost Rs. 258, but of this Rs. 184 were spent on increasing the width of the Chatrani road, 3 miles in length, from 3 to 4 feet, and changing the line in places. A path, 2 feet broad and 55 chains in length, from the Lohakot road to Kilberry cost Rs. 15 ; a path, 2 feet wide and 2¼ miles in length, from the Babullya road to the China Chouki cost Rs. 28, and Rs. 5 were spent on foot paths, measuring, &c.

62. **Kumaun Division.**—Repairing 120 miles of existing roads cost Rs. 4,655. The repairs of the Nindhore valley road were unusually costly owing to the damage done by floods during the monsoon and the heavy rain in March. A new cart-road, 3 miles in length, running from Gungapur to Sudlimat cost Rs. 242, and another of 3¼ miles in length, running from Kalonia to Kilpura cost Rs. 265 ; 54 miles of export roads, charged under A.II., were made at a cost of Rs. 603. Making ditches along the roads from Ransáli Chauki to the Barmdeo road and from Jamna Parao to the Kúlagarh road cost Rs. 90.

63. **Garhwal Division.**—Rs. 8,468 were spent on repairing 418 miles of roads. Rs. 6,155 were spent on constructing new roads, thus :—

	M.	Ch.			
Haldgadi cart-road, length	1	21	cost	Rs.	800
Dhimki and Chowkam ditto	4	8	,,	,,	1,451
Monyawálá Sot ,,	4	32½	,,	,,	1,511
Adnala bridle road ,,	1	63½	,,	,,	800
Chuyalpani Chawkam ,,	2	26	,,	,,	1,444
Bazar ,,	0	12	,,	,,	4
Bhumkia Rewar ,,	4	40		,,	145
	18	44			

The Dhimki and Chaukam road has been transferred to the Ganges Division and is not included in the 418 miles.

64. **Ganges Division**—Rs 4,589 were spent in the repairs of 297 miles of road executed during 1885-86, and Rs 1,344 were disbursed on account of repairs executed in 1884-85; but not fully paid for before the close of the year.

65. **Jhansi Division**—Rs 100 were spent on the repair of 9 miles of road near Dhukwan.

66 **Lalitpur Division.**—Rs 120 were spent on the repair of 10 miles of road near Papri.

67. **Banda Division**—Rs 50 were spent on the repair of the Kaluha road

68. *Buildings.*—The total expenditure under this head was as follows —

	Rs
Repairs of existing buildings	2,801
Construction of rest houses for officers	2,099
Ditto permanent depôt buildings and houses for subordinates ...	4,870
Ditto temporary ditto	40
Rs ..	9,810

In appendix F will be found a list of the buildings maintained in this circle for the use of officers and subordinates; the totals compare as follows with the figures for the previous year :—

Description	For the use of officers		Subordinates		Offices, stores, and revenue depots		Walls.		Total	
	1884-85	1885-86	1884-85	1885 86	1884-85	1885 86	1884-85	1885-86	1884 85	1885-86
Permanent buildings,	14	15	11	11	19	30	4	6	48	62
Semi permanent do	9	6	.	...	24	25	..	..	33	31
Tampotary ditto	..	...	1	1	..	..	...	1	1	2
	23	21	12	12	43	55	4	7	82	95

The decrease in the buildings for officers is due to the transfer of four houses to the Tehri State on the expiration of the Bhagirathi Forest lease.

69. The expenditure on buildings is explained as follows :—

Direction Division—

	Rs
Repairs of existing buildings	79

Naini Tal Division—

Repairs of existing buildings	112

Kumaun Division—

Repairs to existing buildings	267
Construction—Joula Gal, 3rd class house	491
Ditto—Haldwani office buildings	1,963
Ditto—Permanent Depôt at Chorgalia	361
Ditto— ditto Sudhimat	400
Ditto—Malli's house, Haldwani	118
Ditto Wall round Haldwani compound	164

Garhwal Division—

Repairs to existing buildings	1,804
Completing Dhikala, 1st class house	131
Construction—Amangarh 3rd class house	777
Ditto.—Jirna ditto	700
Ditto—Ditto permanent depôt building	400
Part construction, Dhikala ditto	187

Ganges Division—

	Rs
Repairs to existing buildings	93
Partial construction of an office and permanent depôt building at Sanoh ...	780
Construction of an office at Naini Tal	320
Construction of Lalkhank permanent depôt building	93
Erection of a store-house at Chila	74

Jhansi Division—

Repairs to existing buildings	240

Lalitpur Division—

Repairs to existing buildings...	188
Construction of a semi-permanent depôt building in the Thangana Forest ...	40

Banda Division—

Repairs to existing buildings	18
Total, Rs. ...	9,810

	Rs.
The expenditure for 1884-85 was	9,808

70. *Other works.*—The expenditure is as follows:—

Kumaun Division—

Completion of Jaula Sal well	250
Compound ditch and gate, Haldwani	24

Garhwal Division—

Completion of the Phanton well and clearing and repairing the Lalpuri, Amangarh, and Patrampur wells	190

Ganges Division—

Partial construction of the Morghati well (Rs. 246 were spent in the previous year and Rs. 90 have been spent in 1886-87) making the total cost of the well Rs. 1,207. It is about 80 feet deep... ...	971

Lalitpur Division—

Repair of an old well	25
Total, Rs. ...	1,460

	Rs.
The expenditure for 1884-85 was	1,196

CHAPTER IV.

YIELD AND WORKING.

71. Detailed information regarding the yield and working of the financial year (1885-86) will be found in Code Forms 53 to 57, while in appendices A, B, and C abstracts of this information are given, with this difference that the *estimated* quantity and value of the outturn of the fellings of the year are given in the appendices A and B as opposed to the actual exports of the year given in the code forms. The forest year or working season in the sal forests of the Circle runs from the 1st of July to the 30th of June, and fellings are made from November to February, so that it is obvious the exports of the ordinary official year do not represent the outturn of the fellings made during that year. In appendices A and B an estimate of the actual outturn of the year's fellings of sal, &c., has been made by deducting the outturn of 1884-85 fellings, exported April to June, 1885, from the true exports of green sal, &c., during 1885-86, and adding the estimated quantity of converted green sal, &c., *lying in the forest* on the 1st of April, 1886.

In the hill forests, and more or less in the forests of Jhansi, Lalitpur, and Banda the ordinary official year corresponds fairly with the working season in the forests; and the actual exports of the year, taken in conjunction with the depôt accounts, repre-

sent the outturn of the year's fellings. With regard to the estimated figures of the appendices it should be noted that it is very difficult in the month of March to obtain accurate accounts of the amount of converted green sal lying in the forest, and the accuracy and value of these figures is doubtful. I attach appendix G. showing the actual exports of timber from the Kumaun, Garhwal, and Ganges Divisions during the three past working seasons (1st July to 30th June), together with the estimated figures given in the annual reports for the corresponding years.

72. The total number of green trees felled during the year was (see appendix A.) 86,334 = 6,23,617 cubic feet of timber and fuel as opposed to 39,123 = 4,72,595 in 1884-85—*i.e.*, 47,211 more trees and 1,51,022 cubic feet were felled and converted than in 1884-85. The increased fellings were distributed as follows :—Selection fellings 52,844 = 71,989 cubic feet; thinnings 43,600 = 66,563 cubic feet; clearances 767 = 12,470 cubic feet.

The fellings by Government, by contractors, and by villagers (right-holders) compare as follows :—

Government.	1885-86. No. c. ft.	1884-85. No. c. ft.
Selections	7,494 = 1,52,876	3,437 = 72,868
Thinnings	6,875 = 23,724	16 = 35
Clearances	14 = 32	675 = 2,867
	14,383 = 1,76,132	4,128 = 75,765
	12·2 c. ft. per tree.	1·0 c. ft. per tree.
Contractors.	1885-86. No. c. ft.	1884-85. No. c. ft.
Selections	14,095 = 3,01,035	16,136 = 2,74,819
Thinnings	44,335 = 45,649	9,194 = 11,253
Clearances	1,379 = 14,759	... = ...
	59,809 = 362,043	25,330 = 2,85,572
	6 1 c. ft. per tree.	11·3 c. ft. per tree.
Villagers.	1885-86.	1884-85.
Selections	10,403 = 76,798	9,065 = 1,11,638
Thinnings	1,600 = 8,478	... ...
Clearances	49 = 166	... ...
	12,142 = 85,442	9,065 = 1,11,638
	7·0 c. ft. per tree.	11·5 c. ft. per tree.

Taking the fellings of the year by species they compare as follows :—

	1885-86. No.	1884-85.
Sál ...	50,576 = 4 7 c. ft. per tree.	9,276 = 16 4 c. ft. per tree.
Sain ...	1,675 = 42·3 ,, ,, ,,	1,084 = 32·6 ,, ,, ,,
Shisham ...	258 = 27 8 ,, ,, ,,	10 = 7·8 ,, ,, ,,
Tun ...	8 = 34 4 ,, ,, ,,	1 = 15·0 ,, ,, ,,
Khair ...	447 = ·8 ,, ,, ,,	·a ,, ,, ,,
Chir ...	6,799 = 17·9 ,, ,, ,,	8,516 = 14·7 ,, ,, ,,
Oak ...	1,100 = 25·6 ,, ,, ,,	712 = 27·8 ,, ,, ,,
Other kinds ...	25,473 = 6·3 ,, ,, ,,	18,914 = 0·5 ,, ,, ,,

The marked variation in sál is due to the increase under the head "Thinnings" as shown by the following figures :—

	1885-86. No.	
Sál selections	8,307 = 21·8 cubic feet per tree.	
Sál thinnings	41,174 = 1·2 ,, ,,	
Sál clearances	1,195 = 7·0 ,, ,,	
	1884-85.	
Sál selections	8,826 = 16·8 ,, ,,	
Sál thinnings	450 = 5·2 ,, ,,	
Sál clearances	... ,, ,,	

The increase under the head "Sál Selections" is due to the Government fellings (for sleepers in Kumaun and Garhwal) as may be seen below:—

	1885-86.		
Sál Selections.	No.		
By Government	1,948 = 27·0 cubic feet per tree.		
By Contractors	5,904 = 19·1	,,	,,
	1884-85.		
By Government	...	,,	,,
By Contractors	6,861 = 18·0	,,	,,

73. Taking the fellings of the year under the three main heads, *viz.*, "by Government," "by contractors," and "by villagers," the variations between 1885-86 and 1884-85 are explained as follows:—

By Government agency:—

Naini Tal Division, including Ranikhet.—All cuttings made are classed as selection fellings, and 630 fewer trees were cut than in 1884-85. Three hundred and six fewer chir for timber owing to a large number of trees having been given in district forests to residents of Naini Tal, and 324 fewer chir, oak, &c., for fuel, partly owing to the yield per tree being larger, but chiefly owing to the Commissariat requiring less fuel.

Kumaun Division—One thousand sixty-three sál trees were felled by selection for sleepers. In 1884-85 there were no departmental timber works.

Garhwal Division.—Eight hundred and eighty-five sál trees were felled by selection for sleepers against no fellings in 1884-85.

Ganges Division.—No fellings made; while in 1884 132 box-trees were cut for the English market.

Jhansi Division—Four hundred and fifty-four more miscellaneous trees were cut by selection to supply the sale depôts than in 1884-85, the demand being greater.

Lalitpur Division.—Two thousand twenty-three more miscellaneous trees were cut by selection to supply the sale depôts than in 1884-85; thinnings and clearances being *nil* against 16 and 11 trees in 1884-85.

Banda Division.—Six thousand six hundred and forty-three more poles of the miscellaneous class were cut as thinnings than in 1884-85.

The timber was required for the sale depôts.

To summarize the preceding, the increase in departmental fellings is due to extended selection fellings for sleepers in Kumaun and Garhwal, for sale depôts in Jhansi and Lalitpur, and to the extensive thinnings in Banda, also for sale depôts.

By Contractors—

Naini Tal Division.—Three hundred and forty-eight fewer chir and miscellaneous mature trees were felled by local consumers at Ranikhet and Naini Tal.

Kumaun Division.—Four thousand nine hundred and fifty-six fewer sál and miscellaneous mature trees were felled, chiefly in consequence of the transfer of the Kosi forest to Garhwal; but some 500 fewer sál trees were felled in the Nindhaur valley owing to the Government timber operations deterring contractors from working there.

The thinning of poles produced 202 fewer poles, and clearances 894 fewer trees and poles.

Garhwal Division.—Four thousand seven hundred and thirty-one more mature trees were felled in this Division; 3,374 sál trees and 503 sáin and miscellaneous trees were felled in the Kosi forest, transferred from Kumaun in April, 1885; 259 fewer sál trees were felled in the North Patli Dun working circle, owing to the fellings being removed to a block 10 miles further from the Railway than the block open in

1884-85, and partly to the competition of the Government sleeper works; 379 sál and 475 miscellaneous trees were felled in the South Patli Dun and Dharon ranges. An increase in thinnings of 88,022 sál poles is shown in this division, but the increase is nominal as the poles were chiefly from half dry trees, and though they could not be classed as "dry fallen wood," cutting them was not thinning in the usual sense of the word.

Ganges Division.—Five hundred and eighty-one more mature trees were felled than in 1884-85, consisting of 44 sál, 44 saiu, 68 sandan, and 425 miscellaneous. The increase was chiefly on the Ganges and partly in the Kotri Dun, recently transferred from Garhwal; 260 sál and 125 miscellaneous trees were cut in making a fire line in the Gori range and are shown as clearances.

Jhansi Division.—Six hundred and eighty-two more mature miscellaneous trees were felled than in 1884-85.

Lalitpur Division.—Two thousand seven hundred and thirty-one fewer mature miscellaneous trees were cut by contractors—a decrease nearly balanced by the increase in departmental fellings.

Bánda Division.—Four thousand seven hundred and sixty-one more poles obtained by thinnings were removed, but no particular reason can be given for the increased demand.

To summarize the preceding, there was a decreased demand for mature chir trees in Naini Tal, of sál trees in Kumaun and Garhwal, while in Lalitpur the departmental cuttings have taken the place of contractor's work. In the Ganges and Jhansi Divisions the sale of miscellaneous mature trees increased. In Garhwal the outturn of thinnings was abnormally swelled by the export of a large number of half-dried standing poles.

By villagers—

Naini Tal Division.—There were 47 fewer chir trees felled by right-holders than in 1884-85.

Kumaun Division.—There is a decrease of 1,094 mature trees, 243 poles from thinnings, and 49 trees from clearances, total 1,384 trees, consequent on the transfer of the Kosi forest to Garhwal.

Garhwal Division.—There was an increase of 1,299 mature miscellaneous trees and of 1,357 sal poles, chiefly owing to the transfer of the Kosi forest, but partly to the demands of right-holders on the Mandal, who have hitherto drawn their supplies from clearings for new cultivation.

Ganges Division.—There was an increase of 647 mature trees of kinds other than sal. These figures include the timber given for cattle stations—a very variable demand.

Lalitpur Division shows a decrease of 45 trees.

The fellings for villagers are chiefly marked by increased demands in the Garhwal and the Ganges divisions, due in part to the exercise of rights on the Mandal, hitherto in abeyance, but chiefly to the natural rise and fall in the village demands for timber.

74. The yield of the year as detailed in forms 54 and 55 and abstracted in Appendices A. and B. (as noted in para. 71) compares as follows with the yield of 1884-85 (the actual not the estimated yield of timber is given):—

	1885 86.		1884 85	
	c ft.	Rs	c. ft.	Rs.
Timber exported by Government agency ...	61,737	83,153	83,714	66,141
Ditto by private exporters	5,07,110	1,76,066	6,13,704	2,43,875
Total ...	5,68,847 =	2,59,219	6,97,418 =	3,10,016
Timber removed by right-holders and grantees	90,364 =	27,238	1,11,741 =	33,857
Grand Total ...	6,88,211	2 86,457	8,09,159	3,43,873
Wood for fuel and charcoal exported by Government agency	2,09,832	34,236	2,13,785	39,426
Wood for fuel and charcoal exported by private exporters.	8,06,845	9 684	8,47,230	12,212
Total ..	10,16,677 =	43,920	10,61,015 =	51,668
Wood for fuel and charcoal exported by right-holders and grantees.	1,17,400 =	3,405	1,31 422 =	3,799
Grand Total .	11,34,077	47 325	11,92,437 =	55,467
	Scores	Rs	Scores.	Rs.
Bamboos exported by Government agency ...	37,764	4,221	33,012	3,418
Ditto by private exporters... ...	7,53,869	72 053	7,70,440 =	63 871
Total ...	7,91,633 =	76,284	8,13,053 =	67,289
Bamboos removed by right-holders and grantees	48	4	...	...
Total ..	7,91,681	76,888	8,13,053	67,289
Grazing dues and fodder grass		27,731		20,799
Other minor produce		28,838		29,323

The rates obtained or estimated for timber, &c., during the year compare as follows with the rates in 1884-85—

	1885-86.		1884-85
Timber exported by Government agency .	Rs.	1·02 Per c ft.	Rs 0·79 per c ft.
,, ,, ,, private ,,	,,	0 35 ,,	,, 0 36 ,,
,, given to right holders &c , ...	,,	0 27 ,,	,, 0·3 ,,
Fuel exported by Government agency ...	,,	16 3 per % c ft	,, 18 43 per % c ft.
,, ,, ,, private ,, ...	,,	1 2 ,,	,, 1 86 ,,
Given to right holders, &c , ,, ..	,,	2 24 ,,	,, 2 89 ,,

	1885 86		1884-85.	
Bamboos exported by Government agency	Rs	11 19 per % score	10 17 per % score	
Ditto by private agency	,,	9 55 ,,	8 3 ,,	
Ditto by right holders, &c ,	,,	8·00 ,,	0 0 ,,	
Increase in grazing dues and fodder grass	...	...	...	Rs 6,922
Decrease in sales of other minor produce	.	...	..	,, 480

The actual timber exports of the year compare as follows with the estimated results of the fellings of the year and the export of dry wood as given in appendix B :—

	cubic feet	Rs.
Actual exports	6,88,211 =	2,86,457
Appendix B, estimated yield	7,61,192 =	3,15,724

The estimated figures are based on the fact that large quantities of timber were lying in the forest at the end of March, 1886, for export during the remaining three months of the season.

Appendix C is an abstract of the working of the forest by direct agency, and shows that local sales amounted to Rs. 26,130 or Rs. 11,241 more than in 1884-85. In depôts the opening balance was Rs 19,627, the receipts of the year are valued at Rs. 1,02,196 or Rs. 56,759 more than in the previous, the issues at Rs. 1,09,097 or Rs. 1,903 less, while the closing balance was Rs. 12,724 or Rs. 6,903 against the year. The increase in transactions was due to the sleeper operations, and the reduced balance is satisfactory as indicating the gradual abandonment of the direct agency system

The most considerable differences between the yield and value of the outturn of 1885-86 and 1884-85 are briefly accounted for as follows :—

(*a*) The decreased export of timber by Government agency accompanied by an increase in the value of the material sold. This is due to the Government exports in 1884-85 being confined to the sale of old stock at reduced rates in consequence of the abolition of Government timber depôts in Kumaun and Garhwal, while as a whole the 1885-86 Government exports consisted of sál sleepers sawn up and sold to the Rajputana-Malwa Railway during the year.

(*b*) A decrease in the exports of timber by private exporters of 1,06,594 cubic feet, value Rs. 70,809, chiefly due to the rain in February and March, 1886, retarding the carriage of timber.

(*c*) A decreased demand by right-holders and grantees to the extent of 22,377 cubic feet, due to the termination of the Tehri forest lease under which about 15,000 cubic feet of deodar and chir were in 1884-85 given to the Bhagirathi villagers and to a smaller demand in most divisions.

(*d*) Under the head wood for fuel and charcoal there is an increase in the quantity exported of 58,360 cubic feet, and a decrease in the receipts and estimated value of Rs. 8,142. This discrepancy is partly due to variations in the factors used for converting fuel and charcoal measured in donkey and cart loads, &c., into cubic feet of wood, partly to sales of fuel at lower rates in Jhansi, and to the unavoidable omission in 1884-85 of the amount of fuel in cubic feet sold at Banda for Rs. 964. Steps are being taken to ensure uniformity of practice in the future.

The decrease in receipts is due to a reduced demand for fuel for the troops at Ranikhet, to the sale of departmentally prepared charcoal at Naini Tal having been discontinued, and to a reduced demand for fuel in the sub-montane forests consequent on extensive clearance cuttings in the district forests, and a decreased demand for fuel for brick burning, &c., on the Ganges for railway works.

(*e*) The higher receipts obtained for bamboos is due to the successful working of the new classification of bamboos (described in para. 110 of the 1884-85 report), which has encouraged the export of a better class of bamboos, and so raised the average rate paid. The number exported up to the 31st March, 1886, was 21,372 scores less than in the previous year, but the exports after March were largely in excess, about 3,70,000 scores more bamboos having been exported up to the 30th June, 1886, than up to the same date in 1885.

(*f*) Of the increase of Rs. 6,922 in grazing dues and fodder grass sales, about half the amount is due to the increased rates levied in the Kumaun Division under recent orders of Government, and the remainder to the proceeds of sales of Bhabar grass in the Kotri range of the Ganges Division having been credited to this head instead of to Minor Forest Produce (II.*e*). Although some of the Bhabar grass is used for fodder, as a whole it is used for rope-making, &c, and the credit is misleading.

75. The redistribution of the forest areas, included in the Kumaun, Garhwal, and Ganges Divisions, makes a comparsion of the working and yield of these divisions in the past and previous years difficult, as it has not been found feasible to draw up forms showing the yield of 1884-85 according to the present distribution of the sub-himalayan forests; and the following remarks apply to the divisions as they are now constituted compared with their position in 1884-85.

Naini Tál (with Ranikhet).—There was a decrease in departmental timber sales of 167 cubic feet and Rs. 117 in timber exports by contractors. There was an increased export of 1,359 cubic feet, but owing to the trees being of cheap descriptions a decrease in receipts of Rs. 2,423. The timber issued to right-holders was less by 11,866 cubic feet and Rs. 455 owing to the completion of the cow-houses alluded to in previous years. In sales of fuel collected by Government there was a decrease of 1,381 cubic feet and Rs. 5,084, the lower receipts were due to smaller sales of oak fuel which is more highly priced than pine and other wood. The export of fuel by contractors was

less by 5,161 cubic feet and Rs. 29. The sale of ringals fell by 2 score and Re. 1. Grazing dues increased by Rs. 313 owing to the enhancement of rates, and sales of minor forest produce by Rs. 1,242, owing to increased receipts from the Ranikhet forest gardens. The balance of stock in depôt was valued at Rs. 9,833 or Rs. 952 in excess of the 1884-85 figures.

Kumaun Division.—The timber exported departmentally was less by 30,459 cubic feet and Rs. 16,992. The ordinary departmental timber works having been stopped, and the stock in depôt sold in 1884-85, accounts for the decrease. In 1885-86 a contract to supply 25,000 sál sleepers (6′ × 8″ × 4½″) to the Rajputana Railway was undertaken and 15,000 of the number allotted to Kumaun. The sleepers were sawn in the Nindhaur forests in East Kumaun. The unhealthiness of the forests and the abnormally heavy winter rains greatly retarded the work; but Mr. Wilmot prepared 20,000 1st class sleepers, and of this number 14,000 sleepers were delivered at Achneyra before the 1885-86 accounts were closed; the remainder of the sleepers were delivered before the monsoon broke in anticipation of the number contracted for for 1886-87. The cost of the sleepers, exclusive of any debit for roads or permanent establishment, was as follows:—

		Rs.	a.	p.
1.	Sawing	0	6	3
2.	Carriage in forest by hill paths, 1 mile	0	0	9
3.	Carriage by carts on roads, 20 miles	0	6	0
4.	Railway freight from Lalkua, Rohilkhand and Kumaun Railway to Achneyra, 246 miles	0	7	0
	Miscellaneous charges	0	0	2
		1	4	2

The price received was Rs. 2-8-0, which left a balance of Rs. 1-3-10 as the receipts for timber used.

The timber exported by private agency fell off to the extent of 71,450 cubic feet, value Rs. 57,985, partly owing to the transfer of the Kosi sub-division to Garhwál, partly to the heavy rain stopping carting, and partly to the competition for carriage caused by the sleeper works.

The following timber was exported by right-holders and grantees:—

	Cubic feet.	Rs.
By His Highness the Nawáb of Rampur	9,401	=8,507
By Kumaun village right-holders	3,890	=4,893
By Tarái Tharus "	19,892	=3,806
	32,743	=16,706

or 9,033 cubic feet and Rs. 8,361 less than in 1884-85. The decrease is due to His Highness the Nawáb having drawn less by 4,450 cubic feet and to the transfer of the Kosi sub-division to the Garhwál Division.

The export of fuel by purchasers fell off by 21,556 cubic feet and Rs. 1,387 chiefly on account of the heavy rain.

Grantees and right-holders exported fuel as follows:—

	Cubic feet.	Rs.
His Highness the Nawáb of Rampur	8,320	
Tarái Tharu village right-holders	1,03,892	
	1,12,212	=3,254

or 19,120 cubic feet and Rs. 545 less than in 1884-85. His Highness the Nawáb formerly drew his free grant of fuel from forests not under the Forest Department, and the resumption of the Iron Company's Grant has brought the demand on the Kumaun Division. The Tharus' rights have been carefully checked and the result is a decreased demand of 27,530 cubic feet.

The export of bamboos was less by 99,444 scores = Rs. 8,648 in consequence of the changes in the area of the division, which also caused a decline of Rs. 5,244 in minor

forest produce exports. Grazing dues increased by Rs. 3,624 owing to the enhancement of rates in the Kumaun district.

The balance of timber in depôt at the close of the year was 2,349 cubic feet, value Rs. 1,321 or less by 8,299 cubic feet and Rs. 8,567 than in 1884-85. It is hoped by the end of 1886 87 the stock will be quite cleared off.

Garhwal Division.—Government timber operations amounted to 18,723 cubic feet brought to depôt and Rs. 35,083 realized; while in 1884-85 no works were in progress. Of the receipts Rs. 6,818 was on account of timber transferred with the Kosi sub-division from Kumaun. The timber operations were confined to the preparation of metre-gauge sleepers for the Rajputana-Malwa Railway in the Gaujera block of the North Patli Dún forests: 10,925 first class sál sleepers 6′ × 9″ × 4½″ were sawn up and delivered during the year; the detailed cost per sleeper was as follows:—

	Rs.	a.	p.
Sawing	0	6	3
Carriage on mens' backs from sawing places to road	0	0	9
Carriage on hill roads, 17 miles, to Kálágarh	0	3	8
Carriage on plains roads, 25 miles, to Dhámpur (Oudh and Rohilkhand Railway)	0	3	3
Railway freight, Dhampur to Achneyra (Rajputana-Malwa Railway) 195 miles at Rs. 28 per 100 maunds	0	6	3
Miscellaneous charges for temporary establishment, roads, &c.	0	1	4
Total, Rs. ...	1	6	0

The contract price was Rs. 2-8-0, so a balance of Re. 1-2-0 remained as the price of the timber. Besides the above, 1,556 2nd class sleepers were sold in the forest and in depôts for Rs. 898. The works were closed in March, and no sleepers are to be sawn in Garhwál in 1887-88, as the green sál fellings will be made in forests 12 miles further from the rail whence sleepers cannot be delivered at a profit for Rs. 2-8-0 each.

Timber exports by private enterprize amounted to 145,883 cubic feet, value Rs. 76,441, or cubic feet 54,618 and Rs. 11,817 less than in 1884-85. The deficiency was chiefly due to the abnormally wet weather, and exports since the 1st of April have been in excess of the average by about 50,100 cubic feet, but the detailed accounts of the division show a decreased demand during the season by merchants for green sál of about 10,088 cubic feet, which is attributed to the Patli Dún fellings having been placed 12 miles further than in former years from the railway, and to the market at Meerut and elsewhere being dull.

The timber exported by village right-holders amounted to 9,704 cubic feet, value Rs. 3,190, against 103 cubic feet and Rs. 47 in 1884-85. The increase was in the Kosi sub-division transferred from Kumaun, and on the Mandal (North Patli Dún), where a small demand has sprung up, owing to timber cut on newly cleared cultivation having been exhausted.

Bamboo exports increased by scores 29,265 and Rs. 5,026, and receipts from minor forest produce by 3,389, chiefly owing to the transfer of the Kosi sub-division. Grazing dues fell off by Rs. 1,062 owing to the transfer of the Kotri range cattle stations to the Ganges Division. Depôt transactions amounted to Rs. 35,028—the opening and closing balances being *nil*.

Ganges Division.—No Government timber operations were in progress: 396 cubic feet were sold departmentally, and Rs. 2,534 realized on account of the sale of box-wood from the Tehri forests, the lease of which expired in 1884-85. The exports of timber by private agency amounted to 151,854 cubic feet, value Rs. 42,606 or 14,770 cubic feet, value Rs. 2,252 in excess of 1884-85—an increase due to the transfer of the Kotri range from Garhwál.

The fuel exports by private agency rose 15,177 cubic feet, value Rs. 303.

The export of bamboos amounted to 4,19,900 scores, value Rs. 40,306, or 45,738 scores, value Rs. 1,906, in excess of 1884-85, and minor forest produce receipts to Rs. 3,353 or Rs. 444 in excess of 1884-85; the excess exports being from Kotri, while grazing dues and fodder grass receipts were Rs. 7,532 or Rs. 3,595 more than in the previous year, and as previously explained chiefly owing to a miscredit of receipt from Dhâbar grass.

Jhansi Division.—Departmental exports of timber were 1,014 cubic feet, value Rs. 84 or 642 cubic feet, value Rs 19 less, and exports by private agency, 696 cubic feet, value Rs. 28, or 675 cubic feet, value Rs. 25, more than in 1884-85.

Fuel exports by departmental agency rose 2,547 cubic feet, value Rs. 279, to 2,550 cubic feet, value Rs. 279, and private exports fell 24,797 cubic feet, value Rs. 799, to 7,152 cubic feet, value Rs. 299.

Bamboo exports by the Department were 1,050 score, value Rs. 262, 233 score more bamboos, selling for Rs. 122 less than the receipts of 1884-85. Bamboos exported by private agency were less by 68 score and Rs. 62.

Grazing dues decreased by Rs. 243 and receipts for minor forest produce, &c., increased Rs. 274 owing to a payment received for compensation for land taken up. The balance of stock in depôt at the commencement was valued at Rs. 178 as opposed to Rs. 371 at the close of the year.

Lalitpur Division.—Departmental timber exports stand at 5,506 cubic feet, value Rs. 761, or 2,017 cubic feet more and Rs. 148 less than last year owing to the inferior description of the timber; while private exporters removed 2,168 cubic feet, value Rs. 250, less timber than in 1884-85. The free grants of timber rose by 120 cubic feet and Rs. 155 to 920 cubic feet, value Rs. 206.

Bamboo exports by departmental agency amounted to 35,418 score, value Rs. 3,800, against 3 score in 1884-85, while private exports were 2,848 score, value Rs. 405, or 2,108 score, value Rs. 250, in excess of previous year.

The grazing dues and fodder grass returned Rs. 2,082 and minor forest produce Rs. 1,748 or Rs. 458 and Rs. 40 less than in 1884-85. The balances of stock in depôt at the beginning and end of the year were Rs. 776 and Rs. 1,109, the increase being under the head "Bamboos."

Banda Division.—The export of timber by departmental agency increased by 16,843 cubic feet, but fell off in value by Rs. 863 owing to the small price obtained for a large number of poles of miscellaneous descriptions. The 1884-85 exports were 6,863 cubic feet = Rs. 1,435, against 23,706 cubic feet = Rs. 567 in 1885-86. The exports by private agency were 6,364 cubic feet, value Rs. 295, against Rs. 445 in 1884-85, when the cube contents of the exports were not available.

No fuel was collected by Government agency, but 22,292 cubic feet, value Rs. 335, were exported by private exporters as compared with Rs. 966 in 1884-85.

Grazing dues and fodder grass Rs. 753, increased by Rs. 220, and minor forest produce Rs. 1,464, decreased by Rs. 630, chiefly under the head "fruit sales," the season having been unfavourable to mahua, &c.

It will be noted that there was a fall off in receipts under every head save grazing. As accounts of the export of timber in cubic feet were maintained for the first time this year, it is difficult to account for the difference in timber exports, but the decline in receipts was due to the railway works having been closed and to large imports at low rates from private estates having taken place. The demand for fuel fell off owing to the cessation of the demand for lime for the railway, &c. The Collector records an interesting trial introduction of the export of fuel, &c., to Allahabad by private enterprise, and though the first season's returns were small, he is sanguine as to the ultimate success of the system.

The value of stock in depôt at the opening and close of the year was Rs. 413 and Rs. 590, the increased stock consisting of poles and bamboos.

CHAPTER V.

FINANCIAL RESULTS.

76. The annual forms, 58 to 62, submitted with this report give the financial results of the year in full detail.

77. The following is an abstract of the receipts, expenditure, and surplus for the last four years:—

	1882-83	1883-84.	1884-85.	1885-86
	Rs.	Rs.	Rs.	Rs.
Receipts	4,14,093	5,34,280	4,83 737	4,43,133
Expenditure	2,86,648	2,65,892	2,61,912	2,64,479
Surplus	1,27,355	2,68,388	2,21,825	1,78,654
Percentage of expenditure to receipts.	69·21	49·76	54·35	59·93

The regular estimate figures for the year were :—

	Rs.		Rs.
Revenue	5,10,000	actuals less by	66,867
Expenditure	2,80,000	,, ,, ...	15,821
Surplus	2,30,000	,, ,, ...	51,346

The deficiency in receipts was due to reduced exports by merchants owing to the abnormally heavy rain in February and March which checked and often stopped carting. As noted in Chapter IV, there was no marked fall off in the quantity of timber prepared for exports, and the largely increased receipts during April to June, 1886, as compared with the same period last year, prove that export was generally only delayed.

The receipts alluded to above in the Kumaun, Garhwál, and Ganges Divisions compare as follows :—

	Rs.
April to June, 1885	1,08,068
April to June, 1886	1,74 442

or an increase of Rs. 66,374 in the first three months of 1886-87, of which about Rs. 48,000 may be taken as to the credit of 1885-86, the remaining Rs. 18,000 counter-balancing a fall off in the average revenue, April to June, 1885, owing to rapid realizations in January to March, 1885. The decrease in expenditure is due to a short expenditure of Rs. 7,300 in departmental timber works owing to the bad weather, and to small savings under all other heads of expenditure.

78. The following statement exhibits the receipts and expenditure of each division compared with the figures of the previous year :—

Division.	*Receipts.*		*Differences.*		*Expenditure.*		*Differences.*	
	1884-85.	1885-86.	More.	Less.	1884-85.	1885-86.	More.	Less.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Direction	...	...	...	...	28,778	24,611	...	4,167
Naini Tal	55,072	49,100	...	5,972	58,272	44,599	...	13,673
Kumaun	2 12,255	1,24,987	...	87,268	62,400	52,435	...	9,965
Garhwál	1,16,243	1,46,825	30,582	...	63,213	85,918	22,705	...
Ganges	77,254	1,01,440	24,186	...	36,844	44 342	7,498	...
Jhánsi	5,807	6,406	599	...	3,621	3,305	...	316
Lalitpur	9,490	9,387	...	103	5,406	5,539	133	...
Bánda	7,616	4,988	...	2 628	3,378	3,730	352	...
Totals ...	4,83,737	4,43,133	55,367	95,971	2,61,912	2,64,479	30,688	28,121

showing a decrease of Rs. 40,604 in revenue and an increase in expenditure of Rs. 2,567 or a total decrease in the year of Rs. 43,171.

The considerable inter-divisional differences are due to the redistribution of area already described. The decrease in revenue has been briefly explained in the last paragraph. The increase in expenditure is caused by the grants for departmental sleeper works which swelled the disbursements by Rs. 20,938.

79. The following table compares the receipts, charges, and surplus in each division :—

Division.	Receipts.	Charges.	Surplus.	Deficit.
	Rs.	Rs.	Rs.	Rs.
Direction	...	24 611	...	24,611
Naini Tal	49,100	44,599	4,501	...
Kumaun	1,24,987	52 435	72,552	...
Garhwál	1,46,825	85,918	60,907	...
Ganges	1 01,440	44,342	57,098	...
Jhánsi	6,406	3,305	3,101	...
Lalitpur	9 387	5 539	3,848	...
Bánda	4,988	3,730	1,258	...
Total ...	4,43,133	2,64,479	2,03,265	24,611

The results are decidedly satisfactory.

80. Arranged under the main heads of receipts and charges, and adopting the proportionate debits that suit the position of each division, the financial results of the year are as follows :—

Headings.	*Receipts.*		*Charges.*	
	Amount.	Budget heads.	Amount.	Budget heads.
	Rs.		Rs.	
I.—Departmental operations,	1,22,256	I.	86,700	Debits various to suit the circumstances of each Division. *Vide* remarks column of Form No. 6 where the proportionate debits are given.
II.—Other heads of revenue ...	3,20,877	II, III, IV, and V.	90,147	
III.—Formation, protection, and Improvement of the forests.	...	...	87,632	
Total ...	4,43,133	...	2,64,479	

The details of the above for each division are given in Form 62 and need not be repeated here.

It has not been possible as in former years to debit the main heads in each division with the same proportion of charges incurred for roads, establishment, &c., but the debits formerly made against head III., formation, protection, and improvement of forests have been maintained, and only the debits against heads I., departmental operations, and II., other heads of revenue, varied to suit the relative position of these items of revenue.

81. The figures in the abstract given above of Form 62 compare as follows with those of the previous year:—

	1884-85.		1885-86.	
	Surplus.	Deficit.	Surplus.	Deficit.
	Rs.	Rs.	Rs.	Rs.
I.—Departmental timber operations	39,683	...	35,556	...
II.—Other revenue	2,67,253	...	2,30,730	...
III.—Formation, protection, &c., of the forests ...	...	85,111	...	87,632
Total ...	3,06,936	85,111	2,66,286	87,632

As noted in paragraph 95 of last year's report the sale of old stock affected the result of the departmental operations and swelled the profits of the year; this year the surplus seems unduly lowered by the charges for roads, establishments, &c.

82. The receipts, compared with those of the previous year, were derived from the following sources :—

Year	Timber and other produce removed from the forests by Government agency	Timber and other produce removed from the forests by purchasers	Confiscated, drift, and waif wood.	Revenue from forests not managed by Government.	Miscellaneous receipts.	Total
	Rs	Rs	Rs	Rs	Rs	Rs
1884 85 ...	1,09 456	3 69,051	587	148	4 495	4 83,737
1885 86 ..	1,22,256	3,12,269	1,458		7,150	4,43,133

83. The expenditure, under main heads of (A) conservancy and works, (B) establishments, compares as follows with that of the previous year :—

A.

Year	I Timber and other produce removed from forests by Government agency	II Timber and other produce removed from forests by consumers or purchasers	III Confiscated, drift, and waif wood	IV Revenue from forests not managed by Government agency	V Rent of leased forests and payment to share holders	VI Live stock, stores, tools and plant	VII Communications and buildings	VIII Demarcation, improvement, and extension of forests.	IX Miscellaneous	X Total
	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
1884 85	30,421	21,619	...	...	4,501	9,257	40,312	25,910	657	1,38,766
1885 86	52,044	21 807	1	...	952	9,096	37,658	24,609	2 675	1,48,903

B.

Year	I Salaries.	II Travelling Allowances	III Contingencies	Total.
	Rs	Rs	Rs	Rs.
1884-85 ...	1 05,520	12 417	5,209	1,23,146
1885 86	99,383	11,422	4,771	1,15,577

84. The value of timber, fuel, bamboos, &c., and live stock stood as follows :—

	Rs.
On the 1st April, 1885 (*vide* Form 57)	1,21,054
On the 31st March, 1886 (. ... ...) ...	1,13,234
Balance against the year ..	7,820

The difference in the value of stock has been alluded to in the notice of each division as regards timber, bamboos, &c. The difference of Rs. 7,820 in the value of stock of all kinds is explained as follows :—

There is a decrease in the value of timber, &c., in the Circle of Rs. 6,903 due to the clearing of sale depôts in Kumaun and Garhwál. In buildings, tools, and live stock there is a decrease in value of Rs. 6,412 owing to the transfer of tools to the Rájá of Tehri on the expiration of the Bhagirathi forest lease. These tools were given on the condition that he will maintain the Bhagirathi road—*vide* G. O No. $\frac{565}{869-3}$ F., dated 26th August, 1885. There was an increase in the value of buildings, tools, and

elephants, on account of new buildings and purchases, and owing to the new elephants taken over at the 1885 khedah :—

	Rs.
Outstandings due to the department amount at the close of the year to (Form 61) ...	8,813

There were no outstandings due by the department.

	Rs.
There was a balance due to the department in the Jhánsi and Bánda districts on account of revenue (Form 60)	385

The value of the year's transactions stands as follows :—

	Rs.
Cash surplus (Form 58)	1,78,554
Difference in value of live and dead stock	7,820
Total	1,70,734
Add outstandings due to, less outstandings due from, the department ...	8,813
Value of the year's transactions	1,79,647
The value of the year's transactions in 1884-85 was	1,67,724

35. The chief differences in receipts and expenditure are explained as follows :—

Receipts.—Under timber, &c., exported by Government agency, there is a net increase of Rs. 12,800 due to an increase of Rs. 35,000 in Garhwál on account of sleepers, less decreased receipts in Naini Tal of Rs. 8,000 owing to reduced sales, and of Rs. 17,000 in Kumaun owing to the sales depôts having been nearly cleared, and ordinary departmental works closed. The decrease of Rs 56,782 in receipts for timber, &c., removed by purchasers occurs in the Kumaun, Garhwál, and Ganges divisions, and, as previously explained, is due to delays in exports, the deficeincy as a whole having been made good before the 30th June, 1886.

The increase of Rs. 861 from sales of drift was obtained from the Ramganga river in Garhwál where the right to collect waif and drift wood was sold by auction.

The increase under miscellaneous of Rs. 2,655 is due to the receipts of Rs. 2,450 in the Ganges Division, Rs. 1,890 on account of tools in the leased forest sold to the Rája of Tehri (afterwards refunded by order of Government), Rs. 56-12-0 price of lost tools recovered from contractors and old tents sold by auction, and Rs. 504 received from the Collector of Bánda on account of lease of khattas, and to an increase of Rs. 1,400 in the Jhánsi district for damage done to the forests and compensation for land. The other divisions show small decreases under compensation, sales of blasting powder, &c., which balance the accounts.

Expenditure A.—Conservancy and working.

Under A-I. there is an increased expenditure of Rs. 15,623 accounted for thus :—

	Rs.
Decrease in Naini Tal Division owing to reduction in works	7,083
Increase in Kumaun Division owing to sleeper works of	8,793
Increase in the Garhwál Division owing to sleeper works	15,023

While in the Ganges and Bánda divisions there are small decreases chiefly in charges for timber.

Under A.-V. the Tehri lease having expired there is a decrease of Rs. 3,431, and the only charges now incurred are on account of leases in the Bánda district. The decreased charges under stock of Rs. 161, roads and buildings, Rs. 2,654, and fire-conservancy, &c., Rs. 1,301, call for no particular remarks, as the varying character of the season causes fluctuations in all these heads. The increase of Rs. 2,018 is due to refunds in the Ganges Division, Rs. 1,890 to the Rája of Tehri, G. O. No. $\frac{506R.}{369-7}$ dated 11th September, 1885, and Rs. 128 to Sujat Ali, price of 145 pieces of timber, G. O. No. $\frac{710}{420-2}$ of 1885.

Expenditure B.—Establishments and Contingencies.

The decrease under all three heads of Rs. 7,569 is due to the staff of superior officers having been reduced on the amalgamation of the Naini Tal and Rámkhet Divisions, and the saving would have been more had not the pay and allowances of the Forest Settlement Officer for the new reserve had to be provided for.

CHAPTER VI.

GENERAL REMARKS.

86. The sale of the boxwood from the Bhagírathi forests, referred to in paragraph 76 of last year's report, has been brought to a close, and the following are the details of the transaction: 132 trees cut yielded 318 pieces containing 396 cubic feet, weight 375 maunds :—

	Rs	a	p
Cutting and carriage from the forests to Rájpur	710	2	5
Carriage from Rájpur to Saharanpur	164	1	0
Carriage from Saharanpur to Karachi . ..	720	11	0
Freight and shipping charges to London	462	12	3
Total, Charges ...	2,066	10	8
	£.	s	d.
Realised by sale in London through Messrs Churchill & Sim .. .	222	4	2
Deduct other charges (as per account submitted with Conservator's No 78, dated 30th July, 1885) £.	18	18	10
Balance credited in the India Office Treasury	203	5	4

Taking the exchange at 1 shilling 6¼ pence, the account shows a profit of Rs. 535-2-4 as reported in that letter, or say Re. 1-6-0 per cubic foot.

I quote these figures as they are of interest in connection with the box forests in Kumaun and Garhwál, which are nearer the railway than the Bhagirathi forests, and whence it is hoped boxwood may be exported by private enterprise.

87. The question of regulating the cutting of bamboos in the Kumaun, Garhwál, and Ganges Divisions was treated of in paragraph 110 of last year's report. The exports during the last five years compare as follows :—

Divisions.	1881 82	1882-83.	1883-84	1884 85	1885 86.
	Rs.	Rs.	Rs	Rs	Rs
Kumaun ...	11,291	9,480	15 244	17,520	8 892
Garhwal ..	27 035	23 859	27,252	17,197	22 225
Ganges	36,643	35,572	36 862	28,399	40,306
Total Receipts ...	74,969	68,911	79,358	63,116	71 403
Export of bamboos in scores ...	10,85 421	9 41 106	10,75,512	7,79,279	7,91,633
Average rate per 100 score ...	6 90	7 32	7 39	8 09	9 02

Since the close of the year the bamboo exports bear out the 1885-86 figures as far as increase in exports is concerned :—

Divisions	1885 April to June	1886 April to June.
	Rs	Rs.
Kumaun	1 001	2 503
Garhwal	6 557	12,110
Ganges	14,563	40,189
Total ...	22,121	54,802

The decrease in 1885-86 in Kumaun is due to the transfer of the Kosi forests to Garhwál, and part of the increase in the Ganges Division to the transfer of the Kotri forests from Garhwál. The increase in Garhwál may be taken as normal. Restrictions in the cutting of bamboos were first introduced in 1883-84, but the orders issued after the season's cutting was nearly completed, so that the new rules and schedule of rates have actually been in force for two years only.

The order to leave not less than four growing stems in each clump of bamboos has been fairly enforced in all three divisions. In the inner ranges where it has been possible to assign defined tracts to particular merchants few cases of over-cutting occurred. In the outer ranges of hills, where there are numerous petty merchants and a large number of bamboos are exported by petty exporters in head loads, infractions of the rule have been more frequent.

The improvement of the bamboo growth owing to the better regulation of the cutting and export is everywhere apparent, and Mr. Greig before proceeding on leave recorded his opinion as follows:—"The four stem rules and the new rates have worked remarkably well."

88. Timber operations by direct agency as opposed to private enterprize has for several years been a subject that has attracted considerable attention, and a brief review of the season's work on a contract to supply sleepers from Kumaun and Garhwál may be useful. The contract is to supply the Rajputana-Malwa Railway with 50,000 sál sleepers $6 \times 8'' \times 4\frac{1}{2}''$ at Achneyra during 1885-86 and 1886-87. The specification provides for the sleepers being well sawn, free of knots and shakes, and involves the use of sál trees of the first quality, and as a rule of not less than 7 feet girth.

Works were started on the Nandhour in Kumaun about 20 miles from the railway, and in Gaujera North-Patli Dún in Garhwál at about 42 miles from the railway in November, 1885. By the close of the season the following work had been done:—

Kumaun Division.—One thousand forty-three sál trees were felled and converted into 22,526 sleepers = 33,804 cubic feet or 32·5 cubic feet per tree. 19,991 sleepers were passed by the Department as first class, and after examination by a Railway official were despatched to Achneyra, at the contract price of Rs. 2-8-0 each, or Rs. 49,977. The 2,545 second class sleepers will be sold next season and will probably realize 12 annas each. The cost of preparation and delivery was Re. 1-4-2 per sleeper, exclusive of any charge for permanent roads, establishment, &c., or Rs. 25,197, leaving a profit of Rs. 24,780, or Re. 1-3-10 per sleeper.

Gárhwal Division.—Eight hundred eighty-five sál trees were felled and converted into 12,482 sleepers = 18,723 cubic feet or 21·2 cubic feet per tree; 10,925 sleepers were passed by the Department as first class, accepted by a railway official, and delivered at Achneyra at the contract price Rs. 2-8-0 each or Rs. 27,313.

The 1,557 second class sleepers were sold for Rs. 897-2-0. The cost of preparation and delivery was Rs. 15,028, say Re. 1-6-0 per sleeper, leaving a profit of Rs. 12,285, or Re. 1-2-0 per sleeper, exclusive of the price of the second class sleepers.

The difference in the cost of preparation of the sleepers is explained in paragraph 75 where the figures are given in detail.

The profits on the sleeper works contrast unfavourably with those received on the works carried on by private agency in two ways.

1*st*,—The average outturn per tree felled by merchants in the Nandhour has been about 37 cubic feet per tree, and in Gaujera about 26 cubic feet per tree; the yield in sleepers has been 32·5 and 21·2 respectively. The result is a loss of 9,374 cubic feet, worth at least 8 annas a cubic foot, or Rs. 4,687. This is due to Government having only sawn sleepers, whereas timber merchants cut up scantlings of many kinds, the smallest pieces of timber being converted into bed posts and pegs. A smal

portion of the waste wood from the Government sawings has been exported this season, and a little more may be exported at low rates in 1887, but as a whole it must be written off as lost.

2nd,—At the ordinary rates, which have been in force for three years past, timber merchants have been charged about Re. 1-5-0 for each sleeper 6′ × 8″ × 4½, so that the 30,916 sleepers would (excluding second class sleepers in both cases) have brought in a profit of Rs. 40,577 from private exporters as opposed to Rs 37,065 by Government agency, or there is a loss on the season's work of Rs 3,512 As the works were economically carried out, the price offered by the Rajputana-Malwa Railway is apparently below the market rate, and the rates timber has been selling at Meerut and Delhi support this view of the question

Apart from the actual loss in material and profit the sleeper works injuriously affected the export of timber, &c, by merchants Under the terms of the contract the department was bound to deliver 25,000 sleepers in 1885-86 (24,925 appeared in the accounts of that year and competition with the merchants was inevitable. Early in the season carrying rates were based on the sums paid by private exporters in the previous year, but the season being unfavourable for carting, and the merchants in some cases running up the rates to secure carriage for timber urgently required in the plains, it was necessary to raise the Government rates. The increased rates attracted carriage, and the sleepers were punctually delivered, but at the cost of injuring the private export trade so carefully fostered during past years, and to the detriment of the financial returns of the year The divisional officers concerned report that in their opinion it is impossible to carry on timber works by Government and private agency side by side; that Government works undoubtedly disturb the timber market and both directly and indirectly cause loss to the department

Finally the sleeper works occupied an undue proportion of the time both of the divisional officers and their subordinates, and unbusiness-like delays on the part of the Railway Company in passing the sleepers exaggerated this evil.

In the contract deed the Company bound itself to examine sleepers on being given ten days' notice. In practice after receiving three weeks' notice and making appointments to meet the forest officials, the Railway officers were unpunctual and kept the Divisional Officers of Kumaun and Garhwal waiting for many days on the line of railway.

OFFICE OF CONSERVATOR OF FORESTS,
CENTRAL CIRCLE:
Dated Naini Tal, the 7th August, 1886.

C. BAGSHAWE,
Offg Conservator of Forests,
Central Circle.

ANNUAL STATEMENTS.

ANNUAL FORM No. 49.—[PRESCRIBED]. [SECTIONS 236, 238, AND 239.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of Reserved Forests, 1885-86.

Division or range	Civil district or territory.	Name of forest	Area on 1st April, 1885. Acres.	Area on 1st April, 1885. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March, 1886. Acres.	Area on 31st March, 1886. Equivalent in square miles.	No. and date of Notification of addition or transfer.	Remarks
Naini Tal Division. Naini Tal sub-division.	Kumaun district,	...	...	...	22,400	...	22,400	35	Iron works forests G. O. No. 622 / 200-15 dated 7th October, 1885, including village lands	The area is subject to correction on the receipt of area statements from the Forest Survey Department.
Ránikhet ditto ...	Ditto ditto,	Block No. XI	4,480	7	...	...	4,480	7		
		Ránikhet								
		Total ...	4,480	7	22,400		26,880	42		
		... ...	...	...	62,080	...	62,080	97	Ditto ...	Transferred to the Garhwál Division.
		Block No. I	80,467	126	...	80,467	...	...		
		Ditto II.	10,937	17	...	10,937	...	...		
		Ditto III.	35,200	55	...	35,200	...	...		
Kumaun Division...		Ditto IV	65,606	103	...	...	65,606	103		
	Ditto ditto,	Ditto V.	8,960	14	...	...	8,960	14	...	The areas are subject to correction.
		Ditto VI	1,47,520	230	..	...	1,47,520	230		
		Ditto VII.	43,520	68	...	...	43,520	68		
		Ditto VIII	4,320	7	...	...	4,320	7		
		Ditto IX.	4,640	7	...	...	4,640	7		
		Ditto X	5,440	8	..	...	5,440	8		
		Ditto XI.	320	1	.	...	320	1		
		Total ...	4,06,930	636	62,080	1,26,604	3 42,406	536		
Garhwál ditto ..	Garhwál ditto,	Block No. I., Palain ...	1,15 529	180	...	† 90,880	24,640	38	...	*Transferred to the Ganges Division.
		Ditto II., Path Dún ...	1,52,000	238	...	...	1,52,000	238	...	The areas are subject to correction.
		Ditto III., Kartia ...	806	1	...	...	800	1		
		Ditto IV., Chilkia ...	...	...	80 467	...	80,467	126		
	Kumaun ditto,	Ditto V., Kotah ...	...	...	35,200	...	35,200	55		
		Ditto VI., Garhibul chand,	..	...	10,937	...	10,937	17		
	Bijnor ditto,	Ditto VII., Rehar ...	15,719	25	.	...	15,719	25		
		Total ...	2,84,039	444	1,26,604	90,880	3,19,763	500		
		TOTAL ...	6,95,449	1,087	2,11,084	2,17,484	6,89,049	1,077		
Ganges ditto ...	Garhwál ditto, Bijnor ditto,	Khara, Block No V. ..	56,320	88		...	56,320	88	...	Tehri leased fordats excluded.
		Chandi ..	41,739	65	...	...	41,739	65		
		Suneh, Block No. III. ...	10,880	17	...	...	10,880	17		
	Garhwál ditto,	Laldhang, ditto IV. ...	23,360	37	...	...	23,360	37		
		Kotri Dún, part of Block No. II.	...	...	90,880*	...	90,880	142	...	‡ Transferred from the Garhwál Division.
		Total ...	1,32,299	207	90,880	...	2,23,179	349		

Jhánsi ...				...	10,107	16	0-2-30	11 }†	10,096	16			† Transferred to the Jhánsi road.	
Mau ...				...	6,053	9	...	18 }	6,035	9			The areas are subject to correction.	
Garotha ...				...	2,127	6	...	...	2,121	4				
Madi ...				...	2,272	4	...	.	2,272	4				
Total				...	23,559	37	0-2-30	29	23,530	87	-			
Lalitpur ...				...	190	...	...	...	190	...	...			
Basan ...				...	4,733	7	...	...	4,733	7	...		The areas are subject to correction	
Talbehat ...				...	9,290	15	...	...	9,290	15				
Balabehat ...				...	30,186	47	...	...	30,186	47				
Banpur ...				...	4,745	7	...	...	4,745	7				
Mehroni ...				...	1,983	2	...	...	1,983	3				
Maraura ...				...	39,416	62	...	...	39,416	62				
Total ...				...	89,542	140	...	...	89,542	140				
Grand Total ...				...	9,41,149	1,471	2,01,264	2,17,513	10,25,660	1,603				
Naini Tal Sub-division.	Kumaun ditto,	Block No. I.		...	22,744	36	...	33	22,711	36	G. O. No 348F, 284-4, dated 29th May, 1885. G. O. No 348F, 284-4, dated 15th June, 1885		The area is subject to correction on receipt of area statements from the Forest Survey Branch.	
		Ditto II.		...	198	1	...	1	198	1				
		Total		...	22,907	36	...	34	22,903	36				
Bánkhet ditto ...	Ditto ditto,	Block No	I., Mechor ...	...	211	...	...	...	211	...				
		Ditto	II., Bhadhroul ...	...	5,760	9	...	...	*5,760	9				
		Ditto	III., Tulaikhet or Sium ...	...	4,460	7	...	...	4,460	7				
		Ditto	IV., Sium ...	...	640	1	...	...	640	1				
		Ditto	V., Belekh ...	...	640	1	...	...	640	1				
		Ditto	VI., Kathalekh...	...	1,920	3	...	...	1,920	3				
		Ditto	VII., Ganadeoli ...	...	1,280	2	...	...	1,280	2				
		Ditto	VIII., Kaschali ...	...	203	...	...	...	203	...				
		Ditto	IX., Chilianso ...	...	640	1	...	...	640	1				
		Ditto	X., Chanbatia ...	...	1,280	2	...	...	1,280	2				
		Ditto	XII., Padholi ...	...	640	1	...	...	640	1				
		Ditto	XIII., Dwarson ...	...	1,920	3	...	...	1,920	3				
		Ditto	XIV., Airadeo ...	...	10,640	26	...	16,640§	--	...	G. O. No 284F, 297-3, dated 22nd May, 1885.		§ Transferring the Airadeo Forest to the civil authorities.	
		Ditto	XV., Sium Devi ...	...	1 920	3	...	...	1,920	3				
		Total	...	...	38,174	59	...	16,640	21,534	33				
		Grand Total ...		...	61,111	95	...	16,674	44,437	69				
Lalitpur Division ...	Lalitpur ditto,	Lalitpur ...		...	65	...	...	...	65	...				
		Talbehat ...		...	2,863	4	...	...	2,863	4				
		Total ...		...	2,427	4	...	...	2 427	4				
		Total ...		...	68,538	99	...	16,674	46,864	73				
Bánda ditto...	Bánda ditto,	*I.—Government villages.*												
		1	Ambhi ...	...	2,242·77	...	...	...	2,242 77	...				
		2	Amchuraura ...	...	4,216·66	...	...	...	4,216 66	...				
		3	Ukdan ...	...	714·02	...	...	...	714·02	...				
		4.	Uncha Dih ...	...	413 88	...	...	...	413 88	...				
		5.	Pargan ...	...	3,633 30	...	...	...	3,633 30	...				
		6	Jara ...	...	1,139 94	...	...	...	1,139 94	...				
		7.	Chauri ...	...	4,036·70	...	...	...	4,036 70	...				
		8.	Chaubi mahál Sles Prishad ...	...	1,527 66	...	...	5·74	1,521 92	...				

ANNUAL FORM No. 49—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of Reserved Forests, 1885-86—(concluded).

Division or range.	Civil district or territory.	Name of forest.	*Area on 1st April*, 1885.		*Added during the year.*	*Excluded or transferred to other heads.*	*Area on 31st March*, 1886.		No. and date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
		I.—Government villages.								
		9. Deoh	4,273·31	...	...	...	4,273 31	...		
		10. Donda	5,416 14	...	...	...	5,416·14	...		
		11. Rajohan	4,618 80	...	...	...	4,618 80	...		
		12. Rukma khurd ...	132·62	...	...	...	132·62	...		
		13. Tekrashan	644·80	...	...	...	644 80	...		
		14. Karka Pandri ...	73·93	...	...	...	730 93	...		
		15. Matdar	6,729·10	...	...	...	6,739·10	...		
		16. Mau	385·53	...	...	...	385·53	...		
		17. Kuluba	6,182· 0	...	...	...	6,182· 0	...		
		18. Rampur	2,697 84	...	...	...	2,697 84	...		
		19. Gidraha	221·66	...	...	...	221 66	...		
		20. Chhirriya Buzurg ...	1,237·83	...	...	...	1,237·83	...		
		21. Mamaniya	2,250 24	...	...	...	2,250·24	...		
		Total ...	53,535·73	33	...	5·74	53 529·99	33·		
		II.—Villages held under arrangement 45								
			55							
Bánda Division—(*concluded.*)	Bánda district—(*concluded*)	22. Bhera	777·96	...	...	...	777 96	...		
		23. Tikariya	2,892 39	...	...	...	2,892 39	...		
		See No. 6. Chulhi mahal Balkishn.	26·25	...	...	...	26 25	...		
		See No. 6. Chulhi mohal Mukhramgir.	13 0	...	...	...	13· 0	...		
		24. Chilaha	1,502·38	...	...	...	1,502 38	...		
		25. Dadri	4,697· 0	...	...	...	4,697· 0	...		
		26. Rukma Buzurg ...	1,978·21	...	...	...	1,978·21	...		
		27. Karaohan	726·43	...	...	...	726 43	...		
		Chelghatti (included in Karaohan).	69 43	...	...	...	69 43	...		
		28. Kalyanpur	2 670·66	...	...	...	2,670·66	...		
		29. Gur Tarai	908·43	...	...	...	908 43	...		
		30. Marayan	1,885 68	...	...	...	1,885 68	...		
		31. Mahub	948·76	...	...	...	948·76	...		
		32. Nihi	2,109·61	...	...	...	2,109·61	...		
			21,208·19	...	...	...	21,208·19	...		
		Total ...	74,743·92	84	...	5·74	74,738·18	84		
		Add area outside the Forest line,	716 0	1	...	...	716 0	1		
		GRAND TOTAL ...	75,459·92	118	...	5 74	75,454·18	118		

NAINI TAL;
The 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator of Forests, N.-W. P. and Oudh, Central Circle.

ANNUAL FORM No. 50—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Prosecutions for breaches of Forest Rules during 1885-86.

(Sections 236, 238, and 239.)

Forest Division and Civil District.	Cases pending from 1884-85	New cases of the year: Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.	Total cases.	Disposed of during the year: Convictions. Cases.	Convictions. Persons.	Acquittals. Cases.	Acquittals. Persons.	Total. Cases.	Total. Persons.	Cases pending at close of year.
Naini Tal Division.														
Kumaun District.														
						Tried by Divisional Officer.								
Naini Tal	...	...	18	1	1	20	20	17	26	3	4	20	30	...
Ramkhet Sub-division ...	...	1	15	6	4	26	26	16	38	10	49	26	87	...
						Tried by Cantonment Magistrate, Ramkhet.								
	...	1	51	5	...	57	57	55	115	2	4	57	119	...
Total ...	...	2	84	12	5	103	103	88	179	15	57	103	236	...
Kumaun Division.														
Kumaun district	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Garhwál Division.														
Kumaun, Garhwál, and Bijnor districts ...	...	2	...	4	...	6	6	5	12	1	6	6	18	...
Ganges Division.														
						Tried by District Officer, Saharanpur.								
Garhwál district	...	...	...	...	1	1	1	...	...	...	...	...	...	1
						By District Officer, Bijnor.								
Bijnor districts	...	...	1	...	1	2	2	...	...	...	...	...	...	2
						By District Officer, Garhwál.								
Garhwál district	...	...	1	...	1	2	2	1	4	...	...	1	4	1
H. H. the Raja of Tehri ...	... 1	...	...	...	...	...	1	...	...	1	1	1	1	...
Total ...	1	...	2	...	3	5	6	1	4	1	1	2	5	4
Jhánsi Division.														
Jhánsi district	...	...	7	1	1	9	9	7	11	2	2	9	13	...
Lalitpur Division.														
Lalitpur district	...	...	13	...	2	15	15	12	46	3	5	16	51	...
Total ...	1	4	106	17	11	138	139	113	252	22	71	135	323	4

Naini Tal :
The 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator of Forests, N.-W. P. and Oudh, Central Circle.

FORM No. 51.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE

Area of forest tracts protected from fire during the dry season of 1886.

Division.	Forest tracts.	Year in which protection commenced.	Area actually protected up to 15th June, 1886.	During dry season of 1886.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.	Rs.	
Naini Tál ...	Block No. I ...	1876	19,107	19,187	96	19,091	205	
	Block No. II ...	...	193	193	...	193		
	Iron works portion ...	1886	...	...	...	...	40	The area is roughly about 22,400 acres, including village lands.
	Total ...	...	19,300	19,380	96	19,284	245	
Ditto Ránikhet Sub-division. ...	Ránikhet reserve ...	1874	4,800	4,809	...	4,800	61	
	Padhoh protected ...	1882	632	640	...	640	19	
	Chaubattia ditto ...	1882	1,280	1,280	...	1,280	16	
	Chilliaaso ditto ...	1884	638	640	17	623	17	
	Karchuli ditto ...	1885	203	203	...	203	...	
	Ganiadeoli protected and closed portion.	1878	1,312	1,280	...	c 1,280	26	
	Kathalleka protected and closed portion.	1878	1,700	1,700	8	1,692	38	
	Siuni protected and closed portion.	1880	2,560	4,480	...	4,480	47	
	Sium protected ...	[illegible]	640	640	...	640	12	
	Total ...	...	13,655	15,663	25	15,638	236	
Kumaun ...	Hurai ...	1876	2,565	* 2,741	...	2,741	456	Areas corrected since last return.
	Jaunla Sal ...	1876	8,320	* 7,873	...	7,873	876	
	Nandhaur ...	1882	10,493	* 10,107	...	10,107	772	
	Lakhman Mandi ...	1883	2,000	2,000	...	2,000	45	
	Salsni ...	1876	320	320	...	320	73	
	Total ...	...	23,698	23,041	...	23,041	2,222	

Garhwál ...	*Garhwal District.* Shisham khata (part of the Palain Forest block No. I.		1877	2,020	2,020	...	2,020	369
	North Patli Dún (part of Path Dún Forest block No. II)		1878	50,783	50,783	...	50,783	3,774
	South Patli Dún (ditto) ...		1873	45,631	45,631	...	45,631	2,707
	Kumaun District. Chilkia (part of Chilkia Forest block No. IV).		1872	46,111	46,240	104	45,136	3,554
	Kotah (part of Kotah Forest block No V).		1877	23,224	23,233	9	23,289	2,016
	Garhibulchand (part of Garhibulchand Forest block No. VI)		1877	7,112	7,112	...	7,112	548
	Bijnor District. Rehar (part of Rehar Forest block No. VII).		1881	12,258	12,258	...	12,258	1,287
	Total ...		...	1,87,139	1,87,342	113	1,87,229	14,257
Ganges ...	Hazara ...		1881	2,000	* 1,175	...	1,175	112
	Jolichour ...		1881	1,500	* 781	25	756	101
	Andher Majhera ...		1881	1,500	* 1411	...	1,411	124
	Kaunia ...		1881	2 840	* 2.169	...	2,169	201
	Sukrao ...		1882	1,500	* 1101	...	1,101	81
	Babuna ...		1886	...	* 7,993	11	7,981	595
	Total ...		...	9,340	14,639	36	14,593	1,114
Jhánsi ...	Sukwan ...		1874	728	728	...	728	25
	Dukwan ...			755	755	...	755	25
	Total ...		...	1,483	1,483	...	1,483	50
Lalitpur ...	Deogarh ...		1875	998	998	...	998	100
	Garowli ...		1875	751	751	...	751	
	Total ...		...	1,749	1,749	...	1,749	100
	Grand Total ...		...	2,56,364	2,63,231	270	2,63,017	18,224

* These are the areas furnished by the Forest Survey Office.

Naini Tal.
The 7th August, 1886.

C. Bagshawe,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

ANNUAL FORM No. 52.

Forest Department, North-Western Provinces and Oudh, Central Circle.

Area of Plantations, 1885-86.

Division.	Name of Plantation.	Area in acres. On 1st April, 1885	Added during the year.	Excluded during the year.	Area on 31st March, 1886	Receipts. Of the year.	Charges. Of the year.	Remarks.
		Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	
	Regular Plantations.							
Naini Tal Ránikhet Sub division.	Ranikhet Nursery	...	...	...	...	1,678	1,426	Area not known.
	Total ...	...	...	...	...	1,678	1,426	
	Cultural Operations.							
Naini Tal ditto ...	Ayarpatha	5	...	...	5	...	...	
	Jabar	147	...	...	147	...	...	
	China	77	...	...	77	...	48	
	Kahla	35	...	...	35	...	7	
	Various other plantations imperfectly stocked or success uncertain,	...	...	...	...	...	97	Ditto.
Ranikhet ditto ...	Jakhdeo (Upper)	367	...	...	367	...	20	Area approximate.
	,, (Lower)							
	Garkhet							
	Jamoh							
	Darimkhet							
	Ghingarukhal							
	Various other plantations imperfectly stocked, incomplete or success uncertain.	...	...	...	...	...	...	Area not known.
	Total ...	631	...	...	631	...	172	
	Cultural Operations.							
Kumaun ...	Haldwani and Chorgalia	...	...	...	...	...	114	Planting trees in office and chauki compounds.
	Cultural Operations.							
Garhwál ...	Kotah range	...	...	...	...	...	...	
	Chopra plantation	15	5	...	20	...	371	Sowing and tending sál.
	Petty cultural operations, Ramnagar, Mohan, Dhikala,	...	...	...	...	...	29	Planting and tending shade and fruit trees.
	Total ...	15	5	...	20	...	400	

		Cultural Operations.							
Ganges ...	Chilla ...	...	½	...	...	½	...	72	Mango groves on camping-grounds.
	Haldukhata	...	1½	...	...	1½	...	47	
	Sanch ...	...	...	3	...	3	...	26	
		Total ...	2	3	...	5	...	145	
		Cultural Operations.							
Jhánsi ...	Sukhwan and Dukhwan	...	661	26	...	687	...	463	
	Babina	...							
	Magarpur	...							
	Ganupura	...							
	Kheri ...	...							
	Bhasulo, &c.	...							
		Total ...	661	26	...	687	...	463	
		Cultural Operations.							
Lalitpur ...	Kuchnowder	...	10	10	...	20	...	75	
Bánda ...		...	...	...	...	...	...	1	Sowing teak seed; however, did not germinate.
		Total ...	1,319	44	...	1,363	1,878	2,796	Expenditure of the year under A. VIIID.

NAINI TAL:
The 7th August, 1886.

G. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

FORM No. 53.

Forest Department, North-Western Provinces and Oudh, Central Circle.

Trees felled by Government agency during the year 1885-86 (*Selection fellings*).

Division.	Trees felled. Description.	Number.	Remarks.
Naini Tal	Chír	800	Converted into logs and fuel for the Commissariat Department.
	Oak	189	
	Rhododendron	18	
	Miscellaneous	15	
	Total	1 022	
Kumaun	Sál	1,063	Converted into sleepers.
	Haldu	5	Used by the Department.
	Total	1,068	
Garhwál	Sál	885	Converted into sleepers.
Ganges	*Nil*	...	
Jhánsi	Miscellaneous	1,014	Converted into beams, rafters, &c.
Lalupur	Miscellaneous	3,595	
Bánda	*Nil* ...	...	
	Total	7,494	=1,52 376 cubic feet *vide* 2nd column of Appendix A: average contents per tree=20 cubic feet.
	Abstract.		
	Sál	1,948	
	Chír	800	
	Oak	189	
	Rhododendron	18	
	Haldu	5	
	Miscellaneous	4,534	
	Total	7,494	

Naini Tal
The 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

FORM No. 54.

Forest Department, North-Western Provinces and Oudh, Central Circle.

Outturn of timber and firewood during the year 1885-86.

Division.	Description of material.	Outturn in cubic feet.							Remarks.
		Selection fellings.	Clearances.	Thinnings.	Total.	Removed by: Government agency.	Purchasers.	Free grants.	Right-holders.	
				I.—Reserved forests.						
Naini Tal	Timber	1,079	...	...	1,079	19	490	...	570	The figures in column "Clearances" are from fallen wood.
	Firewood	35,250	4,190	...	39,440	29,440	10,000	...	...	
	Total	36,329	4,190	...	40,519	29,459	10,490	...	570	
				II.—Protected forests.						
	Timber	76,870	21	50	76,741	14,647	8,235	96	53,763	
	Firewood	50,972	2,74,230	...	3,25,202	1,77,842	1,47,360	...	...	
	Total	1,27,842	2,74,251	50	4,01,943	92,489	1,55,595	96	53,763	
	Grand Total	1,64,171	2,78,441	50	4,42,462	2,21,948	1,66,085	96	54,333	
				I.—Reserved forests.						
Kumaun.	Sál	46,735	7,028	1,987	55,750	17,539	23,983	2,641	4,487	
	Haldu	34,518	...	...	34,518	87	34,431	...	...	
	Sain	13,321	...	...	13,321	...	13,321	...	...	
	Shisham	6,449	...	...	6,449	...	6,378	...	71	
	Dhauri	6,621	...	...	6,621	...	6,621	...	...	
	Sandan	595	...	...	595	...	...	...	595	
	Miscellaneous	30,939	33	...	30,972	...	26,915	...	4,057	
	Dry and fallen timber	...	92,983	...	92,983	...	79,091	...	13,892	
	Total, timber	1,39,178	1,00,044	1,987	2,41,209	17,726	1,9 ,740	2,641	23,102	
	Firewood	...	2,31,038	...	2,31,038	...	1,16,826	8,320	1,05,892	
	Grand Total	1,39,178	3,31,082	1,987	4,72,247	17,726	3,09,566	17,961	1,28,994	

FORM No 54.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Outturn of timber and firewood during the year 1885-86—(concluded).

Division.	Description of material.	Outturn in cubic feet.							Remarks.
		Selection fellings.	Clearances.	Thinnings.	Total.	Removed by Government agency.	Purchasers.	Free grants.	Right-holders.	
					I.—Reserved forests.					
Garhwál	Sál, green	123,549	...	...	1,23,549	18,723	97,031	...	7,785	
	,, dry	...	24,940	...	24,940	...	24,940	...	...	
	Haldu, green	4,189	...	...	4,189	...	4,189	...	...	
	,, dry	...	177	...	177	...	177	...	...	
	Sem, green	11,275	...	...	11,275	...	11,275	...	...	
	,, dry	...	519	...	519	...	519	...	...	
	Jaman, green	1,573	...	...	1,573	...	1,573	...	...	
	,, dry	...	...	...	...	...	...	...	...	
	Shisham	1,252	...	...	1,252	...	1,141	...	111	
	Dhauri, green	192	...	...	192	...	192	...	...	
	Tun, dry	...	442	...	442	...	388	...	54	
	Sandan	2,705	...	...	2,705	...	2,696	...	10	
	Khair, green	356	...	...	356	...	356	...	...	
	Miscellaneous, green	2,795	...	...	2,795	...	1,061	...	1,734	
	,, dry	...	346	...	346	...	346	...	...	
	Timber	1,47 886	26,424	...	174,310	18,723	145,883	...	9,704	
	Firewood	1,03,704	...	...	103,704	...	103,704	...	...	
	GRAND TOTAL	251,590	26,424	...	278,014	18,723	249,587	...	9,704	
					I.—Reserved forests.					
Ganges	Sál	780	72,759	...	73,539	...	73,539	...	...	
	Sem	13,210	13 317	...	21,527	...	21,332	...	195	
	Shisham and Kokat	7,834	9,275	...	17,109	...	15,767	1,208	134	
	Tun	31	329	...	360	...	329	...	31	
	Deodar	...	28,349	...	28,349	...	28,349	...	...	
	Sandan	390	6,800	...	7,190	...	7,190	...	...	
	Bukwood	396	...	...	396	396	...	...	...	
	Miscellaneous	...	5,348	...	5,348	...	5,348	...	...	
	Timber	22,641	131,177	...	153 818	396	151,854	1,208	360	
	Firewood	...	357,831	...	357,831	...	357,831	...	...	
	GRAND TOTAL	22,641	488,708	...	511,349	396	509,385	1,208	360	

					I.—Reserved forests.					
Jhánsi ..	Ballis	1,710	...	...	1,710	1,014	696	...	...	
	Firewood	...	...	10,390	10,390	2,550	7,152	688	...	
	Grand Total...	1,710	...	10,390	12,100	3,564	7,848	688	...	
					I.—Reserved forests.					
	Miscellaneous ballis ...	8,508	...	...	8,508	5,348	2,550	550	60	
	Firewood	...	42,600	...	42,600	...	39,600	3,000	...	
Lalitpur ...	Total ...	8,508	42,600	...	51,108	5,348	42,150	3,550	60	
					II.—Protected forests.					
	Miscellaneous ballis ...	766	...	...	766	158	298	...	310	
	Firewood	...	1,880	...	1,880	...	380	1,500	...	
	Total ...	766	1,880	...	2,646	158	678	1,500	310	
	Grand Total...	9,274	44,480	...	53,754	5,506	42,828	5,050	370	
					I.—Reserved forests *					
	Ballis	...	32	20,149	20,172	18,966	1,206	...	...	
	Dandia	...	...	3,000	3,000	3,000	..	...	...	
	Sachra	...	...	500	500	500	...	...	...	
	Haria	...	...	291	291	...	291	...	...	
Bánda ...	Koroo, &c.... ...	...	...	5,279	5,279	1,150	4,129	...	...	
	Patao, &c... ...	...	...	328	328	88	240	...	...	
	Gurja and Salai wood ...	...	500	...	500	...	500	...	...	
	Timber ...	...	532	29,538	30,070	23,706	6,364	...	...	
	Firewood	...	22,292	...	22,292	...	22,292	...	...	
	Grand Total ...	...	22,824	29,538	52,362	23,706	28,656	...	...	

*Not gazetted.

Abstract of the Circle for Reserved and Protected Forests.

Circle.	Description of material.	Selection fellings.	Clearances.	Thinnings.	Total.	Removed by				Remarks.
						Government agency.	Purchasers.	Free grants.	Right-holders.	
				I.—Reserved forests.						
Central Circle,	Timber	321,092	258,177	31,525	610,704	66,932	496,577	11,399	33,796	
	Firewood	138,954	657,651	10,390	806,995	31,990	659,105	12,008	103,892	
	Total ...	459,956	915,828	41,915	1,417,699	98,922	1,157,682	23,407	137,688	
				II.—Protected forests.						
	Timber	77,436	21	50	77,507	14,805	8,533	96	54,073	
	Firewood	50,972	276,110	...	327,082	177,842	147,740	1,550	...	
	Total ...	128,408	276,131	50	404,589	192,647	156,273	1,596	54,073	
	Grand Total...	588,364	1,191,959	41,965	1,822,288	291,569	1,313,955	25,003	191,761	

Office of Conservator of Forests, Central Circle, N.-W. P. and Oudh,
Naini Tal, the 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

FORM No. 55.

Forest Department, North-Western Provinces and Oudh, Central Circle.

Outturn of Minor Forest Produce during 1885-86.

Division.	Description of Produce.	Produce removed or utilized.										Remarks.
		By Government agency		*By purchasers.*		*By free grants.*		*By right holders*		*Total*		
		Quantity.	Value.	Quantity.	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
			Rs.		Rs.	*I.—Reserved forests*	Rs.		Rs.		Rs.	
Naini Tal...	Bamboos, scores	..	...	23	2	...	...	...	...	23	2	
	Grazing ...	...	...	...	675	...	...	...	...	...	675	
	Other minor produce	...	36	...	...	...	...	...	...	...	36	
	Total	..	36	...	677	...	...	..	...	...	713	
	Bingal, loads ...	...	...	136	17	*II.—Protected forests.*		17	2	153	19	
	Grazing ...	...	...	...	169	...	...	...	...	...	169	
	Other minor produce	...	...	...	1,985	...	...	...	...	...	1,985	
	Total	..	...	...	2,171	...	..	.	2	...	2,173	
	Grand Total	..	36	...	2,848	...	..	...	2	..	2,886	
Kumaon ...	Bamboos, scores	...	...	24,099	8,672	*I.—Reserved forests*		...	...	24,099	8,672	
	Grazing ...	...	...	...	11,990	...	...	...	...	...	11 990	
	Other minor produce	...	...	...	9,753	(a) ...	58	...	34	..	9,845	(a) Rs. 20 on account of drift wood are included in this.
	Total	...		...	30,615	...	58	.	34	...	30 707	
Garhwál ...	Bamboos, scores	...	...	282,148	22 225	*I.—Reserved forests.*		...	...	2,82,148	22,225	
	Grazing ...	...	...	...	1,435	...	...	...	...	...	1,435	
	Other minor produce	...	...	..	9,472	(b) ...	...	...	...	...	9,472	(b) Rs 1,372 on account of drift timber are included in this.
	Total	...	...	...	33,132	...	. .	...		...	33,132	
Ganges ...	Bamboos, scores	..	...	4,05,302	38 843	*I.—Reserved forests.*		...	...	4,05,302	38,843	
	Grazing ...	...	...	...	7,532	...	...	...	...	...	7,532	
	Other minor produce	...	...	...	2,183	..	...	..	...	..	2,183	
	Total	..	...	...	48 558	...	...	..	...	...	48,558	
	Bamboos, scores	...	...	14,601	1,463	*III —District forests.*		...	...	14,601	1,463	
	Other minor produce	...	...	...	1,170	(c) ...	...	...	...	...	1,170	(c) Rs 22 on account of drift timber are included in this.
	Total	..	...	...	2 633	..	...	...	...	..	2,633	
	Grand Total	...	...	...	51,191	...	...	...	...	...	51,191	

FORM No. 55.

Forest Department, North-Western Provinces and Oudh, Central Circle.

Outturn of Minor Forest Produce during 1885-86.

Division	Description of produce.	Produce removed or utilized.										Remarks.
		By Government agency.		*By purchasers*		*By free grants*		*By right-holders.*		*Total*		
		Quantity	Value	Quantity.	Value	Quantity.	Value.	Quantity.	Value	Quantity	Value.	
			Rs.		Rs.	*I.—Reserved forests.*	Rs.		Rs.		Rs.	
Jhansi ...	Bamboos, scores ...	1,050	262	40	13	.	...	...	...	1,090	275	
	Grazing	...	...	...	2,865	...	...	...	...		2,865	
	Other minor produce ...	...	500	...	526	...	23	...	..	. .	1,049	
	Total ...	...	762	...	3,404	...	23	...	...	...	4,189	
						I.—Reserved forests.						
Lalitpur ...	Bamboos, scores ...	30,110	2,211	5,319	324	...	...	...	...	35,429	2,535	
	Grazing	...	...	...	2,083	...	...	..	...	...	2,083	
	Other minor produce ...	...	3	...	1,719	(d) ...	...	...	...	...	1,722	(d) Rs. 21 on account of drift timber are included in this.
	Total ...	...	2,214	...	4,126	...	...	...	...	...	7,340	
						II.—Protected forests.						
	Bamboos, scores	5,308	589	1,382	85	...	...	31	2	6,721	677	
	Other minor produce ...	...	...	...	27	...	...	...	...	...	27	
	Total ...	...	589	...	113	...	...	...	2	...	704	
	Grand Total .	...	3,803	...	4,239	...	...	...	2	...	8,044	
						*I.—Reserved forests.**						* Not gazetted.
Banda ...	Bamboos, scores ...	1,296	169	819	207	...	...	...	...	2,115	376	
	Grazing	...	...	...	973	...	...	...	...	...	973	
	Other minor produce ...	...	97	...	1,367	(e) ...	...	...	...	...	1,464	(e) Rs. 23 on account of drift timber are included in this.
	Total ...	...	266	...	2,547	...	...	...	...	...	2,813	

ABSTRACT FORM No. 55.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE, 1885-86.

Description.	PRODUCE REMOVED OR UTILIZED.										Remarks.
	By Government agency.		*By purchasers.*		*By free grants.*		*By right-holders.*		*Total*		
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
		Rs.		Rs.		Rs.		Rs.		Rs.	
					I.—Reserved forests.						
Bamboos, scores	32,456	3,642	7,37,750	70,486	...	...	...	...	7,70,206	74,128	
Grazing	...	...	...	27,553	...	...	...	...	...	27,553	
Other minor produce	...	636	...	25,030	(*f*) ...	81	...	34	...	25,781	(*f*) Rs. 1,456 on account of drift timber are included in this.
Total	...	4,278	...	1,23,069	...	81	...	34	...	1,27,459	
					II.—Protected forests.						
Bamboos, scores	5,308	589	1,382	86	...	...	31	2	6,721	677	
Hinggol, loads	...	...	136	17	...	...	17	2	153	19	
Grazing	...	...	...	169	...	...	...	...	...	169	
Other minor produce	...	...	...	2,012	...	...	...	...	...	2,012	
Total	...	589	...	2,284	...	...	...	4	...	2,877	
					III.—District forests.						
Bamboos, scores	...	...	14,601	1,463	...	...	...	...	14,601	1,463	
Other minor produce	...	...	...	1,170	(*g*) ...	...	...	...	...	1,170	(*g*) Rs. 52 on account of drift timber are included in this.
Total	...	...	...	2,633	...	...	...	...	...	2,633	
GRAND TOTAL	...	4,867	...	1,27,976	(*h*) ...	81	...	38	...	1,32,962	(*h*) Rs. 1,458 on account of drift timber are included in this.

NAINI TAL;
The 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

[Sections 236, 238, 239 and 244

ANNUAL FORM No. 56—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Account of timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1885-86

Particulars.				No or quantity	Cubic feet	Total of each head.	
						No or quantity	Cubic feet.
Balance at commencement of the year.							
Naini Tal Division	Chir karis	...		1,080	1,677	...	...
	,, planks	...	...	12,275	5 674	15,361	7,351
	Charcoal	...	Mds	3,045	84,760	3,045	84 760
	Firewood	...	,,	3,713	6,765	3,713	6,765
Kumaun ditto ...	Sál logs	...		78	3,408		
	Haldu logs	...	..	2	64		
	Sál sleepers	...	..	116	153		
	,, karis	...	...	3,681	6,992		
	,, jaras	...	...	11	29	3,888	10,648
Garhwál ditto ...		...	...	...	...	...	...
Ganges ditto ...		...	...	...	...	...	...
Jhansi ditto ...	Miscellaneous ballis		...	17	26	17	26
	Firewood	...	Mds.	488	1,464	488	1,464
	Charcoal	...	,,	127	1,805	127	1,805
	Bamboos	...	No.	921	No	921	No.
	Kiras	...	,,	927	,,	927	,,
	Kurias	...	,,	6,591	,,	6,591	,,
Lalitpur ditto ...	Miscellaneous ballis		...	857	1,341	857	1,341
	Bamboos	...	No.	82,712	No	82,712	No.
	Kurias	...	,,	3,273	,,	3,273	,,
Bánda ditto ...	Miscellaneous ballis		...	2,002	2,002		
	Dhura		...	146	18		
	Haris		..	26	13		
	Yokes		,,	11	1		
	Sachra		...	72	12		
	Koron	...	..	119	40	2,376	2,086
	Bamboos	...	No	810	No.	810	No
Total balance ...	Timber	...	...	...	...	20,498	21,452
	Firewood	...	Mds	...	...	4,2 1	5,229
	Charcoal	...	,,	...	...	3,172	36,565
	Bamboos	...	No	...	...	84 443	No.
	Kiras	...	,,	...	...	927	,,
	Kurias	...	,,	...	...	9,868	,,
Received from the Forests in Depôts.							
Chir karis ...		...	...	...	...	4,850	7,432
,, planks ...		...	...	...	...	11,776	6,970
Sál sleepers ...		...	...	...	...	26,482	39,723
Box pieces ...		...	...	...	...	818	306
Miscellaneous ballis		...	.			7,690	10,198
Dhura ...		...	...	...	,,	78	10
Yokes ...		...	...	...	...	19	2
Koron ...		...	...	...		1,150	863
Haris ...		...	...	...		2	1
Firewood ...		...	...	. .	Mds.	47,865	1,38,740
Charcoal ...		...	...	...	,,	204	2,856
Bamboos ...		...	...	...	No.	817,113	No.
Kiras ...		...	...	...	,,	5,006	,,
Kurias ...		...	...	...	,,	14 ,395	,,
Jhakur (bushes)		...	..	Cart-loads.		11	Cart-loads.

ANNUAL FORM No. 56—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Account of timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1885-86—(continued).

Particulars.	No. or quantity.	Cubic feet.	Total of each head.	
			No. or quantity.	Cubic feet.
Removed by purchasers from Depôts.				
Chír karis	1,762	2,687		
,, planks	12,964	6,940		
Sál logs	23	1,059		
,, sleepers	26,598	39,876		
,, karis	3,681	6,992		
,, joras	11	29		
Haldu logs	2	64		
Box pieces	318	396		
Miscellaneous ballis	6,304	8,686		
Dhura	132	16		
Sachra	51	8		
Yokes	10	1		
Haris	14	7		
Karon	1,156	385		
			53,926	67,146
Firewood Mds.	81,472	1,45,187		
			81,472	1,45,187
Charcoal ,,	2,589	29,886		
			2,589	29,886
Bamboos No.	784 883	No.		
			7,84,883	No.
Kiras ,,	3,073	,,		
			3,073	,,
Kurias ,,	141,538	,,		
			1,41,538	,,
Jhakur (bushes) Cart-loads	11	Cart-loads.		
			11	Cart-loads.
Sold locally.				
Ash karis	3	4		
,, planks	5	3		
Miscellaneous ballis	2,935	2,935		
Sachra	203	34		
Dhura	455	57		
Dandis	61	30		
Yokes	79	10		
Hrris	89	45		
Patas	44	36	3,874	3,206
Firewood Mds.	22,928	71,752	22,928	71,752
Bamboos No.	10,320	No.	10,320	No.
Hides ,,	4	,,	4	,,
Mangoes ,,	700	,,	700	,,
Mahua Mds.	95	Mds.	95	Mds.
Grass ,,	16	,,	16	,,
Axe No.	4	No.	4	No.
Chraunji Mds.	2	Mds.	2	Mds.
Chír tar Gharas.	58	Gharas.	58	Gharas.
Received from the forests and sold locally:				
Ash karis	3	4		
,, planks	5	3		
Miscellaneous ballis	2,935	2,935		
Dhura	455	57		
Yokes	79	10		
Haris	89	45		
Sachra	203	34		
Dandis	61	30		
Patas	44	36	3,874	3,206
Firewood Mds.	22,928	71,752	22,928	71,752
Bamboos No.	10,320	No.	10,320	No.
Hides ,,	4	,,	4	,,
Mangoes ,,	700	,,	700	,,
Mahua Mds.	95	Mds.	95	Mds.
Grass ,,	16	,,	16	,,
Axe No.	4	No.	4	No.
Chraunji Mds.	2	Mds.	2	Mds.
Chír tar Gharas.	58	Gharas.	58	Gharas.

ANNUAL FORM No. 56—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Account of timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1885-86—(continued)

Particulars.			No. or quantity.	Cubic feet.	Total of each head.	
					No. or quantity.	Cubic feet.
Received by transfer from Sale Depôts.						
Miscellaneous ballis			144	144		
Dhura			10	1		
Yokes			16	1		
Harris			10	5	174	151
Bamboos		No.	3,125	No.	3,125	No.
Grand Total	Timber				76,911	89,924
	Firewood	Mds.			74 994	2,18,721
	Charcoal	,,			5 376	39,421
	Bamboos	No.			915,001	No.
	Kiras	,,			3,933	,,
	Kurias	,,			151,258	,,
	Ilides	,,			4	,,
	Mangoes	,,			700	,,
	Mahua	Mds.		Mds.	95	Mds.
	Grass	,,			16	,,
	Axe	No.			4	No.
	Chiraunji	Mds.		Mds.	2	Mds.
	Chir tar	Gharas.		Gharas	58	Gharas.
	Jhakur (bushes)				11	Cart-loads.
Lost or written off as useless.						
Firewood		Mds.	7	21	7	21
Used by Departments.						
Chir karis			4	3		
,, planks			8	5		
Miscellaneous ballis			83	126	95	134
Transferred to other Sale Depôts.						
Miscellaneous ballis			144	144		
Dhura			10	1		
Yokes			10	1		
Haris			10	5	174	151
Bamboos		No.	3,125	No.	3,125	No.
Balance at close of the year.						
Naini Tal Division	Chir karis		4,170	6,419	...	...
	,, planks		11,079	5,699	15,249	12,118
	Charcoal	Mds.	579	6,610	579	6,610
Kumaun ditto	Sál logs		55	2,349	55	2,349
Garhwál ditto	*Nil*		...	...	...	...
Ganges ditto	*Nil*		...	...	...	...
Jhánsi ditto	Miscellaneous ballis		376	566	376	566
	Firewood	Mds.	587	1,761	587	1,761
	Charcoal	,,	208	2,925	208	2,925
	Bamboos	No.	3,598	No.	3,598	No.
	Kiras	,,	860	...	860	,,
	Kurias	,,	3,577	...	3,577	,,
Lalitpur ditto	Miscellaneous ballis		665	1,052	665	1,052
	Bamboos	Mds.	152,935	No.	152,935	No.
	Kurias	,,	1,143	,,	1,143	,,
Bánda ditto	Miscellaneous ballis		3,138	3,138		
	Dhura		23	12		
	Yokes		19	3		
	Haris		14	7		
	Sachra		21	3		
	Karon		113	36	3,337	3,201
	Bamboos		10,170	No.	10,170	No.

ANNUAL FORM No. 56—[Prescribed].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Account of timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1885-86—(concluded).

Particulars.		No. or quantity.	Cubic feet	Total of each head	
				No. or quantity.	Cubic feet
Total balance.					
Timber				19,744	19,285
Firewood	Mds			587	1,761
Charcoal	,,			787	2,558
Bamboos	No		No.	166,703	No.
Kiras	,,		,,	860	,,
Kurias	,,		,,	9,720	,,
GRAND TOTAL — Timber				76,911	89,924
Firewood	Mds.			74,994	218,721
Charcoal	,,			3,376	39,421
Bamboos	No.			915,001	No.
Kiras	,,			3,933	,,
Kurias	,,			151,258	,,
Hides	,,			4	,,
Mangoes	,,			700	,,
Mahua	Mds.			95	Mds.
Grass	,,			16	,,
Axe	No.			4	No.
Chiraunji	Mds.			2	Mds.
Chir tar	Gharas.			58	Gharas.
Jhakur	(Bushes)			11	Cart-loads.

NAINI TAL :
The 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

(PARAS. 236, 238, 239 AND 245.

FORM No. 57.

FOREST DEPARTMENT, CENTRAL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Abstract showing the value of timber and other produce at Sale Depôts for the year 1885-86.

Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks.
	Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favour of the year.	Against the year.	
TIMBER.			Rs.			Rs.			
Sal logs	78	3,408	2,556	55	2,249	1,821	...	...	
Haldu ,,	2	64	12	...	...	...	...	...	
Sál sleepers	116	155	140	...	...	...	...	...	
,, karis	3,681	6,992	7,158	...	...	...	...	...	
Chir ,,	1,086	1,677	1,258	4,170	6,418	4,814	...	...	
,, planks	12,275	5,674	4,255	11,679	5,699	4,274	...	...	
Sal jorsa	11	29	22	...	...	...	...	...	
Miscellaneous ballis	2,676	3,369	568	4,179	4,755	680	...	...	
Dhuras	146	18	19	92	12	3	...	...	
Sachra	78	12	9	21	3	1	...	...	
Karon	119	40	1	113	38	1	...	...	
Harls	26	13	3	14	7	1	...	...	
Yokes	10	1	1	19	3	1	...	...	
Total Timber	20,498	21,452	16,002	19,742	19,205	11,046	...	4,956	
FIREWOOD AND CHARCOAL.		C. feet.			C. feet.				
Firewood Mds.	4,201	8,229	1,406	587	1,761	98	...	...	
Charcoal ,,	3,172	36,865	1,578	787	9,535	345	...	...	
Bamboos Nos.	84,448	...	566	166,703	...	1,148	...	...	
Kiras ,,	227	...	37	860	...	63	...	...	
Kurias ...	9,863	...	38	9,720	...	24	...	...	
Total Fuel, &c.	...	44,794	3,625	...	11,296	1,678	...	1,947	
	Total ...	19,627		Total ...	12,726		...	6,903	

Net difference against the year, Rs, 6,903.

Abstract showing the value of live and dead stock for the year 1885-86.

Description of live and dead stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
LIVE STOCK.		Rs		Rs.	Rs.	Rs.	
Elephants	8	12,000	10	14,600	...	...	
Bullocks	50	953	48	893	...	...	
Total Live Stock	58	12,953	58	15,693	2,740	...	
DEAD STOCK.							
Buildings	80	67,382	85	71,828	...	...	
Sheds	2	16	4	366	...	...	
Tools and plant	20,327	19,694	15,500	11,134	...	...	
Carts	26	624	26	624	...	...	
Almirahs	3	120	5	195	...	...	
Gunpowder, barrels	5	499	2	88	...	...	
Ditto, loose, lb.	7	7	...	...	...	...	
Slow match, barrels	3	252	1	84	...	...	
Miscellaneous qts.	6	...	...	...	...	...	
Ditto, lb.	9	...	...	...	...	...	
Total Dead Stock	20,518	88,474	15,623	84,817	...	3,657	
Total ...	1,01,427	Total ...		1,00,510	2,740	3,657	

Net difference against the year, Rs. 917.

NAINI TAL:
The 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator of Forests, N.-W. P. and Oudh, Central Circle.

ANNUAL FORM No 58 —[PRESCRIBED]. [CODE PARAS 253, 255].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE

Summary of Revenue of the different Divisions, 1885-86.

Budget heads.	Direction.	Naini Tal Division	Kumaun Division	Garhwál Division.	Ganges Division.	Jhánsi Division.	Lalitpur Division.	Bánda Division	Total
RECEIPTS									
I—Timber and other produce removed from the Forests by Government agency —	Rs a. p	Rs. a. p	Rs a. p.	Rs a p.	Rs a. p	Rs. a p	Rs a. p.	Rs. a p	Rs. a. p
(a) Timber		5,089 4 3	36,118 13 7	35,028 2 1	2,584 3 4	83 13 4	761 6 0	567 2 7	83,152 13 7
(b) Firewood and charcoal		33,957 8 6	..	...	...	278 12 8	...	...	34,236 5 2
(c) Bamboos		...	...	...	...	261 6 11	3,800 5 0	169 5 7	4 231 3 6
(d) Sandal wood		...	...	...	...	...	..	...	...
(e) Grass and other minor produce		36 4 0	...	...	...	500 2 6	2 10 3	97 2 1	636 2 10
II —Timber and other produce removed from the Forests by consumers or purchasers —									
(a) Timber		1,136 5 3	55,154 14 5	76,441 7 10	42,605 15 2	28 0 0	404 14 0	294 9. 6	1,76,066 2 2
(b) Firewood and charcoal		5,043 3 6	2,777 13 3	1,730 5 3	2 344 1 4	298 9 9	165 12 0	334 10 2	9,684 7 3
(c) Bamboos		19 1 0	5,871 13 7	22,224 11 8	40,306 3 11	12 14 6	410 8 3	207 4 0	72 052 3 11
(d) Grazing and fodder grass		844 0 9	11 990 4 5	1,438 0 0	7,531 11 10	2,865 4 3	2,082 9 0	972 10 0	27,721 7 6
(e) Other minor produce		1,965 3 2	9,783 2 1	8,100 4 3	3 371 7 2	536 1 3	1,724 5 0	1,343 12 7	26 744 3 6
III —Confiscated, drift and waif wood		...	20 4 0	1,371 15 6	21 7 2	...	21 5 9	23 3 0	1,458 3 3
IV —Revenue from forests not managed by Government —									
(a) Duty on foreign timber and other forest produce,		...	...	...	...	...	...	...	...
(b) Revenue from shared and private forests		..	...	...	...	...	...	...	...
V —Miscellaneous —									
(a) Fines and forfeitures		608 8 9	288 2 2	221 0 0	314 3 0	4 0 0	0 4 0	..	1,433 1 11
(b) Refunds		46 0 6	5 0 0	...	..	...	..	...	51 0 6
(c) Other sources ..		366 0 0	26 8 2	281 11 10	2,450 12 0	7 7 1	13 4 0	977 15 5	5,666 10 6
Total		49,109 6 11	1,24,986 11 6	1,46,824 10 5	1,01,440 1 4	6,406 10 3	9,387 3 3	4,987 10 11	4,43,133 6 9

CALCUTTA:
The 21st June, 1886.

J TAYLOR,
Assistant Comptroller General, (*Forests*)

ANNUAL FORM No. 58.—[PRESCRIBED].

[CODE, PARAS. 253, 255].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Summary of expenditure of the different Divisions, 1885-86.

Budget heads.	Direction.	Naini Tal Division	Kumaun Division.	Garhwál Division.	Ganges Division.	Jhánsi Division.	Lalitpur Division.	Bánda Division.	Total.
A.—CONSERVANCY AND WORKS.									
I.—Timber and other produce removed from the Forests by Government agency —	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
(a) Timber	...	6,951 4 5	10,081 7 8	15,027 8 9	719 2 5	224 0 1	158 9 2	961 6 6	33,423 7 0
(b) Firewood and charcoal	...	17,269 5 5	...	...	...	76 4 8	...	...	17,345 10 1
(c) Bamboos	...	...	...	...	...	25 6 10	957 7 1	83 9 6	1,066 7 5
(d) Sandal-wood	...	...	...	...	...	...	...	...	.
(e) Grass and other minor produce	...	24 8 0	...	...	...	168 14 3	...	15 4 6	208 10 9
II.—Timber and other produce removed from the Forests by consumers or purchasers.	...	262 0 0	6,366 7 9	6,997 12 4	8,241 2 1	...	...	...	21,867 6 2
III.—Confiscated, drift and waif wood...	...	...	...	...	...	...	0 10 4	...	0 10 4
IV.—Revenue from Forests not managed by Government—									
(a) Duty on foreign timber and other forest produce,	...	...	...	...	...	...	...	...	...
(b) Revenue from shared and private forests	...	...	...	...	...	...	...	...	...
V.—Rent of leased forests and payments to share-holders in Forests managed by Government.	...	...	...	...	...	...	...	952 7 10	952 7 10
VI.—Live Stock, Stores, Tools and plant :—									
(a) Purchase of cattle	...	...	...	...	...	34 8 0	122 0 0	...	156 8 0
(b) Feed and keep of cattle	...	...	1,029 15 7	2,748 7 0	1,099 5 10	394 9 6	1,381 9 9	31 6 6	6,685 6 2
(c) Stores, tools and plant	...	163 1 6	694 9 1	994 2 6	225 6 0	...	177 1 6	...	2,254 4 7
VII.—Communications and buildings :—									
(a) Roads and bridges	...	309 13 6	5,252 5 8	14,623 0 4	5,933 2 8	100 0 0	120 0 0	50 0 0	26,388 5 6
(b) Buildings	79 2 0	112 1 9	3,824 13 0	3,998 8 5	1,308 8 5	240 5 6	228 7 6	18 8 0	9,810 6 8
(c) Other works	...	...	273 11 6	189 10 0	971 4 0	...	25 0 0	...	1,459 9 6
VIII.—Demarcation, improvement and extension of Forests.—									
(a) Demarcation	...	2,208 11 6	263 8 10	137 0 6	491 5 4	...	...	22 0 0	3,122 10 2
(b) Compensation for land and rights	...	...	...	...	...	...	...	...	...
(c) Surveys and working plans	...	...	525 8 0	248 15 2	632 13 3	...	...	...	1,407 4 5
(d) Plantations	...	1,597 11 5	118 15 5	400 0 0	145 1 9	463 7 3	75 0 0	1 6 0	2,796 9 10
(e) Protection from fire	...	631 14 0	2,258 4 2	13,771 12 8	972 14 7	50 0 0	109 0 0	...	16,784 13 5
(f) Other works	...	27 2 3	72 8 0	344 7 0	...	50 5 0	...	3 2 6	497 8 9
IX.—Miscellaneous :—									
(a) Refunds	...	...	...	...	2,018 0 11	...	...	...	2,018 0 11
(b) Law charges	0 8 0	...	...	...	4 0 0	...	...	...	4 8 0
(c) Other charges	...	15 13 6	33 1 6	348 0 5	139 4 0	84 3 5	22 8 0	9 0 3	651 15 1
Total A.—Conservancy and Works	79 10 0	29,573 7 3	30,790 4 2	58,529 5 2	22,901 6 7	1,912 0 6	3,368 5 4	1,448 3 7	1,48,902 10 7

CALCUTTA:
The 21st June, 1886.

J. TAYLOR,
Asst. Comptroller-General, (Forests).

ANNUAL FORM No. 58—[PRESCRIBED].

[CODE PARAS. 255, 265].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Summary of expenditure of the different Divisions, 1885-86—(concluded).

Budget heads.	Direction.	Naini Tal Division.	Kumaun Division.	Garhwál Division.	Ganges Division.	Jhánsi Division	Lalitpur Division.	Bánda Division.	Total
Brought forward, Total A.—Conservancy and works ...	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
B.—ESTABLISHMENT.	79 10 0	29,573 7 3	30,790 4 2	58,829 5 2	22,901 6 7	1,913 0 6	3,368 5 4	1,448 3 7	1,48,902 10 7
I.—Salaries:—									
(a) Conservator	18,000 0 0	...	...	...	...	...	...	...	18,000 0 0
(b) Superior officers	...	7,561 4 8	6,665 0 0	11,806 8 11	11,350 0 0	...	...	...	39,382 13 7
(c) Subordinate forest and depôt establishment ...	...	3,262 2 9	7,206 13 10	9,509 5 0	5,164 15 4	1,112 0 0	1,678 0 10	1,384 5 9	29,267 11 8
(d) Office establishments	8,759 11 8	840 0 0	2,132 3 11	1,656 0 0	1,386 0 0	60 0 0	203 0 0	770 0 0	10,807 15 7
(e) Deputation and special allowances...	...	1,800 0 0	...	70 0 0	55 0 0	...	...	...	1,925 0 0
II.—Travelling allowances :—									
(a) Conservators	1,362 0 0	...	...	...	...	...	...	...	1,362 0 0
(b) Superior officers	...	985 0 0	1,490 0 0	1,724 0 0	1,401 14 0	...	...	...	5 580 14 0
(c) Subordinate forest and depôt establishments ...	...	...	644 2 8	987 4 10	893 15 8	127 14 0	203 5 4	76 4 6	2,932 15 0
(d) Office establishments	35 1 3	78 9 0	578 2 8	433 4 0	425 4 6	...	0 10 6	...	1,546 0 1
III.—Contingencies —									
(a) Stationery	2 0 6	36 0 6	82 10 6	7 6 6	97 15 9	12 0 0	21 3 0	15 7 6	274 11 3
(b) Carriage of tents and records	500 13 0	194 10 6	373 11 0	296 6 4	364 10 3	...	...	...	1,730 3 1
(c) Rents, rates and taxes	62 5 3	60 0 0	21 0 0	21 0 0	21 0 0	12 0 0	...	...	197 5 3
(d) Pay of police-guards	300 0 0	...	...	...	...	...	...	...	300 0 0
(e) Official postage	218 7 6	37 0 0	125 0 6	128 7 0	79 1 6	14 4 6	35 7 6	6 12 0	664 8 6
(f) Sundries	290 13 6	195 9 9	326 8 4	448 12 6	200 6 9	55 3 0	8 9 6	78 9 10	1,604 9 2
Total, B.—Establishments ...	24,531 4 7	15,025 4 8	21,445 5 5	27,088 7 1	21,440 3 9	1,393 5 6	2,171 4 10	2,281 7 7	1,15,576 11 5
GRAND TOTAL OF EXPENDITURE ...	24,610 14 7	44,598 11 11	52,435 9 7	85,917 12 3	44,341 10 4	3,305 6 0	5,539 10 2	3,729 11 2	2,64,479 6 0

CALCUTTA
The 21st June, 1886

J. TAYLOR,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 59—[PRESCRIBED].

[CODE, PARAS. 253, 258.]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Account current for the year 1885-86.

		Rs. a. p.	Rs. a. p.			Rs. a. p.	Rs. a. p.
To opening balance		...	37,585 12 8	By expenditure as per Annual Form No. 58		...	2,64,479 6 0
„ Revenue as per Annual Form No. 58		...	4,13,133 6 9	„ Deposits		...	399 0 0
„ Service Funds—				„ Forest cash remittances (Local)—			
Uncovenanted Service Family Pension Fund, Bengal		...	1,821 10 0	Remittances to treasuries		2,79,051 5 5	
„ Deposits		...	470 10 8	Inter-divisional transfers		109 0 0	
„ Forest cash remittances (Local)—							2,79,160 5 5
Forest cheques drawn		2,61,397 11 0		„ Advances recoverable		...	56,228 0 6
Inter-divisional transfer		104 0 0		„ Suspense		...	0 4 0
			2,61,401 11 0	„ Account-current other Governments—			
„ Advances recoverable		...	59,698 10 5	Government of India		...	80 0 0
„ Suspense		...	0 4 0	„ Inter-departmental transfers—			
„ Account-current other Governments—		...	...	Public Works Department State Railway		...	...
Government of India		...	2,003 12 11	Rajputana and Malwa State Railway	Rs. 35,000 0-0	...	...
„ Inter-departmental transfers—		...	...	Bombay, Baroda and Central India State Railway	„ 27,312-8-0		
Public Works Department, other Branches		245 14 0	...			62,312 8 0	
Civil Department		...	...	Public Works Department, other Branches		293 14 11	
„ Mathematical Instrument Department		180 4 0		Military Department, Bengal		32,274 14 6	
			426 2 0				94,881 5 5
				„ Closing balance		...	11,308 11 1
	Total	...	8,06,537 0 5		Total	...	8,06,537 0 5

CALCUTTA :
The 21st June, 1886.

J. TAYLOR,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 60.—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Revenue received and outstandings on account of Revenue during 1885-86.

[Sections 236, 238, and 239.] (Code, paras 253, 255.)

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks
		Rs. a p	Rs. a. p.	Rs. a. p	Rs. a. p.	Rs a. p.	
Direction ...	Timber poles, grazing dues, and minor produce ...	...	...	...	...	...	
Naini Tal ...	Ditto ditto ...	...	49,100 6 11	49,100 6 11	49,100 6 11	...	
Kumaun ...	Ditto ditto ...	...	1,24,986 8 11	1,24,986 8 11	1,24,986 8 11	...	
Garhwál ...	Ditto ditto ...	...	1,46 824 10 5	1,46,824 10 5	1,46,824 10 5	...	
Ganges ...	Ditto ditto ...	...	1,01,440 1 4	1,01,440 1 4	1,01,440 1 4	...	
Jhánsi ...	Ditto ditto ...	...	6,406 10 3	6,406 10 3	6,383 10 3	23 0 0	
Lalitpur ...	Ditto ditto ...	...	9,387 3 3	9,387 3 3	9,387 3 3	...	
Bánda ...	Ditto ditto ...	270 12 8	4,987 10 11	5,258 7 7	4,896 14 11	361 8 8	
	Total ...	270 12 8	4,43,133 6 9	4,43,404 3 5	4,43,019 10 9	384 8 8	

Naini Tal:
The 7th August, 1886.

C BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

ANNUAL FORM No. 61.—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Outstandings and liabilities on account of Contractors and Disbursers for 1885-86.

[Code, Paras. 253, 255.]

Division	*Department debtor.*			*Department creditor.*			*Balance due.*		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year	At close of year	At commencement of year.	Payments made during year	At close of year.	To Department (Outstandings).	By Department (Liabilities)	
	Rs a. p.	Rs a p.	Rs a p.	Rs. a. p.	Rs. a. p	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Direction	..	70 0 0	70 0 0	...	70 0 0	70 0 0	...	...	
Naini Tal	...	708 11 3	708 11 3	(a) 1 390 11 2	128 3 3	1 449 4 5	746 9 2	...	(a) Includes Rs. 1,780 opening balance of Hámkhet Division since amalgamated with Naini Tal Forest Division
Kumaun	...	8,518 13 0	8,518 13 0	1,417 13 8	9,083 0 0	10,500 13 8	1,982 0 8	...	
Garhwál	...	42,106 1 8	42,106 1 8	7,393 5 9	39,570 12 9	46.714 2 6	4,606 0 10	...	
Ganges	...	4,173 6 1	4,173 6 1	2,174 7 11	3 266 14 9	5 441 6 8	1,368 0 7	...	
Jhánsi	...	815 3 7	815 3 7	160 0 6	869 13 0	1,029 13 6	214 2 11	...	
Lalitpur	...	2,166 15 2	2,166 15 2	2 8 1	2,164 7 1	2,166 15 2	...	...	
Bánda	...	1,134 7 8	1,134 7 8	...	1,134 7 8	1,134 7 8	...	...	
Total ...	...	59,623 10 5	59,623 10 6	12,278 15 1	56,228 0 6	68,506 15 7	8,813 5 2	...	

Calcutta:
The 21st June, 1886.

J. TAYLOR,
Assistant Comptroller-General (Forests.)

[CODE, PARAS 236, 238, 239, AND 247]

ANNUAL FORM No. 62—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Financial results of the year 1885-86.

Division.	*Timber and other produce removed from the forests by Government agency.*		*Other revenue.*		*Formation, protection, and improvement of forests.*	*Total.*		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Direction	*Nil*	Charges	proportion	ately distri	buted.			
Naini Tal	42,053	30,145	7,047	6,083	10,371	49,100	46,599	
Kumaun	56,119	23,616	68,868	19,042	16,775	1,24,987	59,435	
Garhwál	35,028	26,648	1,11,797	34,036	33,234	1,46,825	93,918	
Ganges	2,534	719	98,906	27,311	21,319	1,01,440	49,342	
Jhánsi	1,124	1,646	5,282	938	1,121	6,406	4,305	
Lalitpur	4,564	4,143	4,823	1,188	2,208	9,387	6,539	
Bánda	681	781	4,154	1,549	2,011	4,988	4,341	
Total ...	1,22,256	86,700	3,20,877	90,147	87,632	4,43,133	2,64,479	

In the Naini Tal, Kumaun, Jhánsi, and Lalitpur Divisions the proportionate debits are as follows:—

I.—Timber and other produce, &c.—A $(I+V+\frac{VI}{2}+\frac{VII}{3}+\frac{IX}{3})+\frac{B}{3}$ + Direction Division quota of charges.

II.—Other Revenue.—A $(II+III+IV+\frac{VII}{3}+\frac{IX}{3})+\frac{B}{3}$ + Direction Division quota of charges.

III.—Formation, Protection, &c.—A $(\frac{VI}{2}+\frac{VII}{3}+\frac{VIII+IX}{3})$ + Direction Division quota of charges.

In the Garhwal Division as follows —

Head I.—A $(I+V+\frac{VI}{3}+\frac{VII+IX}{6})+\frac{B}{6}$ + Direction Division proportion of charges / 3

„ II.—A $(II+III+IV+\frac{VI}{3}+\frac{VII+IX}{2})+\frac{B}{2}$ + Direction Division proportion of charges / 3

„ III.—A $(\frac{VI}{3}+\frac{VII}{3}+\frac{VIII+IX}{3})+\frac{B}{3}$ + Direction Division proportion of charges / 3

In the Ganges Division, the proportion is the same as that adopted for the Garhwál Division, except that the only debit taken against head I—Revenue is the expenditure under head A I.A

In the Bánda Division the debits are as follows:—

Head I.—A $(I+\frac{V}{6}+\frac{VI}{6}+\frac{VII+IX}{6})+\frac{B}{12}$ + Direction Division quota of charges / 13

„ II.—A $(II+\frac{V}{3}+\frac{VI}{3}+\frac{VII+IX}{3})+\frac{B}{12}+\frac{5}{12}$ Direction quota of charges,

„ III—A $(\frac{V}{2}+\frac{VI}{2}+\frac{VII+VIII+IX}{2})+\frac{B}{2}+\frac{1}{2}$ + Direction quota of charges.

NAINI TAL
The 7th August, 1886

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

APPENDIX A.

Forest Department, Central Circle, N.-W. P. and Oudh.

Statement of trees felled.

Description of trees.	Selection fellings.								Thinnings.								Clearances.								Grand Total.	
	By Government agency.		By contractors.		By villagers.		Total.		By Government agency.		By contractors.		By villagers.		Total		By Government agency.		By contractors.		By villagers.		Total.			
	Number.	Cubic feet	Number.	Cubic feet.	Number.	Cubic feet	Number.	Cubic feet	Number.	Cubic feet.	Number	Cubic feet.	Number.	Cubic feet.	Number.	Cubic feet	Number	Cubic feet	Number.	Cubic feet	Number	Cubic feet.	Number.	Cubic feet.	Number.	Cubic feet.
Sál ...	1,948	52,924	5,904	1,12,614	355	13,602	8,207	179,140	...	...	39,574	39,788	1,600	6,478	41,174	46,263	...	...	9,154	8,257	41	133	1,195	8,390	50,576	235,793
Sein ...	...	...	1,671	70,859	7	195	1,678	71,054	...	...	...	...	...	...	...	...	...	...	...	...		...	...	...	1,678	71,054
Sisham ...	...	...	234	6,871	19	182	253	7,053	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	253	7,053
Tun ...	...	...	3	176	5	99	8	275	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	275
Khair ...	...	...	447	356	...	...	447	356	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	447	356
Chir ...	800	65,145	167	6,513	5,832	49,817	6,799	121,475	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6,799	121,475
Oak ...	189	23,414	120	1,062	763	3,709	1,072	28,186	28	9	...	...	...	...	28	9	...	...	...	...	...	...	...	...	1,100	28,195
Miscellaneous ..	4,557	10,893	5,549	103,183	3,512	9,194	13,618	123,270	6,847	23,715	4,761	5,864	...	...	11,608	29,579	14	32	225	6,503	8	32	247	6,567	25,473	159,416
Totals, 1885-86,	7,494	152,376	14,095	361,635	10,493	76,798	32,082	590,809	6,875	23,724	44,335	45,649	1,600	6,478	52,810	77,851	14	32	1,379	14,759	49	166	1,442	14,957	86,334	683,617
1884-85,	3,437	72,863	16,136	274,319	9,665	111,638	29,238	458,820	16	35	9,194	11,253	...	...	9,210	11,288	675	2,487	...	...	...	...	675	2,487	39,123	472,595
Difference. More...	4,057	79,513	...	27,316	828	...	2,844	71,989	6,859	23,689	35,141	34,396	1,600	6,478	43,600	66,563	...	...	1,379	14,759	49	166	767	12,470	47,211	151,022
Less ...	...	...	2,041	...	...	34,860	...	...	...	...	...	...	...	...	...	...	661	2,455	...	...	...	...	...	...	...	...

Naini Tal:
The 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

APPENDIX B.

Forest Department, Central Circle, N.-W. Provinces and Oudh.

Yield in Produce.

Description of produce.	1884-85.		1885-86.	
	Quantity.	Value.	Quantity.	Value.
		Rs.		Rs.
Timber from trees felled, cubic feet	529,515	2,22,431	(a) 547,496	250,066
Ditto from dry fallen trees, cubic feet ...	244,475	71,399	213,696	65,638
Firewood and charcoal, ditto ...	1,192,437	55,467	1,134,077	47,325
Bamboos (including ringals), scores	813,453	67,289	791,681	76,266
Minor Produce, Rupees	...	29,323	...	28,633
Grazing dues, do.	...	20,799	...	27,721
Total ...	...	4,66,696	...	495,676

Cubic feet.

Note (a).—Total outturn of timber from trees felled as per appendix A. ... 623,617

Ditto ditto ditto as per this appendix ... 547,496

Difference ... 76,121 c. feet.

The difference is included under item firewood and charcoal, 76,121 cubic feet of the fellings in the Naini Tal and Ránikhet Divisions having been converted into firewood and charcoal for the troops at Naini Tal and Ránikhet and for the Naini Tal Settlement.

Naini Tal:
The 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

APPENDIX C.

Forest Department, Central Circle, North-Western Provinces and Oudh.

Statement showing disposal of produce collected by Government agency for 1885-86, *compared with results for* 1884-85.

Description of produce.	Sold locally, not brought to Depôt.				Depot Transaction.											
					Balance in hand at commencement of year.				Brought to Depôt.				Total received in Depôt.			
	1884-85.		1885-86.		1884-85.		1885-86.		1884-85.		1885-86.		1884-85.		1885-86.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity	Value.
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Timber ... c. ft.	5,897	667	3,206	520	75,892	77,134	21,452	16,002	28,725	19,005	65,115	77,213	104,519	96,139	86,567	93,215
Firewood ... Mds.	25,954	12,129	22,928	23,227	14,359	5,050	4,201	1,406	64,783	22,974	47,865	21,192	79,142	28,024	52,066	22,598
Charcoal ... Mds.	1	...	...	...	3,240	2,916	3,172	1,578	1,298	817	204	105	4,538	3,733	3,376	1,683
Bamboos ... No.	355,471	1,340	10,320	1,757	60,288	493	64,443	566	341,588	2,124	817,103	3,069	401,826	2,617	901,556	3,635
Minor Produce ...	168,621	753	...	626	35,161	183	10,790	75	43,979	417	144,401	617	79,140	580	155,191	692
Total ...	...	14,889	...	26,130	...	85,756	...	19,627	...	45,337	...	1,02,186	...	131,093	...	1,21,823

APPENDIX C.

FOREST DEPARTMENT, CENTRAL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Statement showing the disposal of produce collected by Government agency for 1885-86, *compared with results for* 1884-85—(continued).

Description of produce.	Depot Transactions.															
	Removed by purchasers from Depôt.				*Converted in Depôt.*				*Lost or written off as useless.*				*Used by Department.*			
	1884-85.		1885-86.		1884-85.		1885-86.		1884-85.		1885-86.		1884-85.		1885-86.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Timber c. feet,	77,817	65,843	67,143	82,354	1,886	2,616	...	...	1,966	11,232	...	...	1,406	1,104	134	15
Firewood Mds.,	74,200	26,610	51,472	22,499	...	...	...	...	741	140	7	1	...	...	...	...
Charcoal ,,	1,005	693	2,589	1,136	...	...	...	...	361	180	...	...	...	...	...	...
Bamboos Nos.,	316,783	2,077	734,853	2,487	...	...	...	...	600	3	...	...	...	...	...	...
Minor produce ,,	66,761	382	144,611	605	...	...	...	...	1,589	120	...	...	...	...	...	...
Total ...	...	95,605	...	1,09,081	...	2,616	...	...	...	11,675	...	1	...	1,104	...	15

APPENDIX C.

FOREST DEPARTMENT, CENTRAL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Statement showing disposal of produce collected by Government Agency for 1885-86, *compared with results for* 1884-85—(concluded.)

Description of produce.	Depôt Transactions.								Remarks.
	Total issued from Depôts				*Balance in hand at close of year.*				
	1884-85		1885-86.		1884-85		1885-86		
	Quantity.	Value	Quantity.	Value	Quantity.	Value	Quantity.	Value.	
		Rs.		Rs		Rs		Rs.	
Timber ... c. ft.	83,165	80,795	67,282	82,349	21,452	16,002	19,265	11,046	In the Naini Tal Division Rs 890 realized more, and in Kumaun Division Rs 630 short realized owing to change of rates, hence an excess of Rs 260 in timber
Firewood ... Mds.	74,941	26,750	51,479	23 800	4,201	1,406	587	98	
Charcoal ... „	1,166	873	2,549	1,136	3,172	1,578	787	345	In the Naini Tal Division the closing balance of charcoal is shown less by Rs 202 owing to change of rates, hence the difference.
Bamboos ... Nos.	317,383	2 080	734,853	2,467	84,443	566	156,703	1,148	
Minor produce ... „	68,250	502	144,611	605	10,790	75	10,580	87	
Total ...	...	1,11,000	...	1,09,097	...	19,627 +466 (a)	... ..	12 724 (b)+2	

(a) *Vide* foot note in last year's appendix.
(b) Add difference owing to change of rates in timber and charcoal in Naini Tal and Kumaun Divisions, Rs 2

C. RAGSHAWE.
Offg. Conservator of Forests, Central Circle N.-W.P and Oudh.

Appendix D.

Annual Plans of Operations.

NAINI TAL DIVISION.

Sanctioned Plan.	How far carried out.
I. Area and Boundaries.	
Boundary pillars to be kept in repair.	Done.
II. Protection and Improvement.	
Roads.	
Repairs will only be taken in hand where urgently required.	Done. Naini Tal; cost of repairs ... Rs. 78 14 6 Ranikhet ,, ,, ... 3 0 0
The Chatrani path, 1 mile 13 chains, to be widened to 4′ and altered where necessary.	Done; cost 109 6 0 ... ...
The 4′ path to be continued to the Maulani road, distance 1 mile 34 chains.	Done; cost 75 0 0 ... 184 6 0
Make a 2′ path from Bohakoth road to Maulani road, 55 chains.	Done; cost 15 7 6
Make a 2′ path from Bâbillya *vid* Nairwari to China choki, 2 miles 67 chains.	Done; cost 28 1 0
Make a 5′ road in Ayarpata Forest Block II., 19 chains.	Not done, as the block may perhaps be handed over to the municipality.
Buildings.	
Repair chokis and Kilberry Bungalow.	Chatrani choki repaired; cost ... 0 7 6. Forester's hut, Kahla Depôt ... 3 0 0. Kilberry Bungalow, repairs not done for want of time. ... Ranikhet Forest Bungalow repaired and a bath-room added; cost ... 108 10 3.
Plantations.	
Weed, hoe, plant deodar, &c., and transplant ash seedlings.	Done; cost Rs. ... ... 152.
Ranikhet. Transplant from nursery walnuts, horse chestnuts, and sweet chestnuts.	Done; cost Rs. ... ... 59.
Nursery. Make terraces and extend orchards by planting apples, peaches, nectarines, and cherries. Transplant seedlings.	Done by the establishments. Done by the establishments?
Fire conservancy.	
Protect, as usual, in Naini Tal.	Carried out.
In Ranikhet it is proposed to protect a larger area.	Acres. The area was increased by ... 2,008.
Fencing.	
Will be kept in repair.	Ranikhet reserve; repairs cost ... 10 1 0 On account last year's repairs ... 8 2 0 18 3 0 Ganiadeoli closed forest; repairs cost... 8 15 3. Sâini closed forest repairs being extensive, could not be finished by the end of the year.
III. Yield and Working.	
Timber. About 20,000 cubic feet of timber will be sawn and carried to Khala Depôt.	14,518 cubic feet sawn. 14,402 cubic feet carried to Depôt.
The following compartments will probably be sufficient to furnish the trees required (this, however, subject to modification). Compartments I., II., III., X., XII., and XXII.	Trees felled in compartments I., III., X. and XXII. Trees 174 41 1 43
Trees for building timber will, as usual, be given on indent to purchasers and village rightholders in Naini Tâl and Ranikhet.	*Naini Tal.*—83 chir, 8 alder, 3 tun, and 1 ash trees for building purposes. 8 gethi, 93 oak poles, 18 chir poles, 40 miscellaneous poles sold for other purposes. 86 oak and 20 miscellaneous trees for lime burning. For number supplied to villagers see yield and working statements. *Ranikhet.*—71 chir trees sold for building. Villagers as above

		Maunds.				
Fuel,	Naini Tal	... 20,500	to be supplied approximately as follows :—	Naini Tal	... 20,575 other fuel	179 maunds.
	Ranikhet	... 36,500		Ranikhet	... 35,584 „ „	2,174 „
	Chaubattia	... 20,000		Chaubattia	... 11,924	
		77,000				

Naini Tal.—13,700 maunds chir fuel from tops, branches, bad logs, and dry trees from compartments III. and VI.; 6,800 maunds hard wood fuel from standing trees, compartments XXX., XXXII., and XXXIII.

Difference owing to revision of Commissariat indent. 13,698½ from compartments III. and VI., of which 827 maunds is from 79 dry trees, compartment III.; 6,876½ from compartments XXX., XXXII., and XXXIII., and XCV.; 133 trees were felled.

12 dry trees were felled in compartments X., XXXII., and XCV. for fuel to other folk (179 maunds).

				Mds.
Ranikhet.—5,700 maunds from	Reserve Block	I.	Blocks I. and II. reserve ...	5,484
1,760 „	„ „ „	II.	Includes 673 maunds from last year's stock.	
7,040 „	„ Kathallekh Protected		Kathellekh protected ...	16,544
	Dry trees and fallen wood.		Includes 2,040 maunds from last year's stock.	
13,000 „	„ Siuni protected dry trees and fallen wood and from tops and branches left over from sawing.		Siuni Ditto	10,908
4,000 Ganiadeoli	protected selection fellings.		Ganiadeoli Ditto	2,204
5,000 Karchuli	do. do.		Padholi Ditto	1,964
			Tara Udyar Ditto	1,480

The Commissariat Department upset arrangements by first requiring a large increase and then applying for much less.

Ranikhet.

The fuel from Tara Udyar was from trees felled in making diversion of Ranikhet bridle road. Other fuel. The Ranikhet Brewery 1,167 maunds from fallen wood in Suini protected forest and 1,007 maunds from Karchuli forest, of which 447 was from standing trees.

Chaubattia.

		Mds.
14,900 reserve blocks III and IV selection fellings	Reserved blocks III and V ...	8,521
	Includes 1,000 maunds from last year's stock.	
5,100 Chaubattia protected do.	Nursery	109
	Chaubattia protected	3,294

Charcoal : Naini Tal.

No charcoal will be made.

All departmental charcoal sold by the 15th April, and the charcoal store taken over by the municipality for Rs. 2,300.

Grass : Ranikhet reserve.

The contract for supplying grass at Ranikhet and Chaubattia from the reserved forest will be sold by auction, as usual, through the Cantonment Magistrate.

As we only got Rs. 450 last year by auction a contractor's offer of Rs. 600 was accepted.

KUMAUN DIVISION.

Sanctioned plan.	How far carried out.
I. Area and boundaries.	
Keep up existing pillars and other marks.	Done at a cost of Rs. 153.
In the Iron Company's grant such demarcation works will be carried out as may be ordered after the boundaries are fixed.	Boundaries not being completed, no pillars built.
II. Plantations and Improvements.	
A. Fire protection.	
In Eastern Kumaun the same area will be protected as last year.	Done.
In the Iron Company's grant some preparations will be made for the protection from fire of the most valuable sál forest.	No special measures taken, as the rights were not recorded.

Construct wooden wells of hollow logs for the convenience of fire watchers in Jaunla sál and Horal	Not done no funds
Sowings and Plantations	
Keep up the forest gardens now existing	Done
Export roads	
Existing communications will be kept up where necessary and temporary export roads constructed	Done
Construct two new roads in Eastern Kumaun connecting the Kilpura and Sadlimat revenue stations with the upper roads	Done at a cost of Rs 573.
In the Iron Company's grant make a new road allowing of export *vid* Bin Kheri and repair existing export roads	Old road repaired; no funds for the new one Done
Buildings	
Complete the Kumaun Forest office at Haldwani	Nearly completed
Erect permanent kham tahsil chokies at Chorgalia and Sadlimat and repair existing buildings	Done. Sadlimat chokı under construction
In the Iron Company's grant the Sahat bungalow will be repaired if handed over	Not handed over
Creeper cutting, &c	
Creeper cutting except by the Forest staff is not necessary this season	Creepers were cut in Iron Company s grant at a cost of Rs 55
Sample Plots	
The usual measurement will be made	Done
Other Works	
The Jaunla sál well will be completed	Done at a cost of Rs 250
Yield and Working	
The annual yield of the Nandhour valley in terms of working plan having been much less than was permitted any quantity of green sal timber up to 1,00,000 cubic feet may be cut this season should merchants arrive Also it is proposed to extract 50,000 cubic feet of sawn from these forests	51 949 cubic feet were cut, of which 18 145 by private exporters and 33 804 cubic feet by Government agency for sleepers for the Rajputana Malwa State Railway 6,577 cubic feet of sawn only were cut, no purchasers coming forward
The Nawab of Rampur will also receive 83 trees from here All work will be carried on in Blocks X, IX, and V already open No new blocks will be entered on The usual statistics with reference to outturn by compartments will be completed The sale of green, sawn, and round haldu and dhaura will be continued above the road Chorgalia to Tanackpur The remaining 69 trees due to the Nawab of Rampur will be given to him in the Karakoh sot east of Chorgalia The usual export of dry timber all through the division will take place and, with enforcement of the 4 stem rule, bamboo cutting will be allowed everywhere No khair will be felled unless exporters apply specially for it The Iron Company's grant will be opened for the export of all kinds of dry timber and bamboos	82 trees given It was found necessary to open blocks XI and VI as well as X, IX, and V for the sleeper work Done Done Done Done No khair was felled Done
GARHWAL DIVISION	
Sanctioned plan	How far carried out
I Area and Boundaries	*Boundaries*
(1) (a) Repair any broken pillars.	(a) Carried out
(b) If the map sheets are received in time the Chilkia, Kotah, and Garhibulchand pillars will be checked and some obsolete pillars thrown down	(b) Map sheets not received
II. Protection and Improvement	*Protection of forest from fire*
(2) Under fire conservancy the following work will be taken up	
(a) Protection will be attempted in the same areas as in 1884 85	(a) Carried out
(b) Special work will be carried out as follows.—	

I North Patli Dún clear, cut and improve the Ridge and Phulai Kanda lines	I Work done
II South Patli Dun realign the southern outer line by Jhara Sot so as to exclude all high grass on right bank of Sot	II Ditto
III Rehar cut small interior cross line, about 60 chains, by Pili and Ram Tal	III Ditto
IV Kotah clear, cut and widen the outer line by Baulparao on south east boundary	IV. Ditto.
(3) Creeper cutting	*Creeper cutting*
I North Patli Dun, Delidhunga and Khakasgadi Division II, compartments 1 2, 3 and 37, 38, 39	I. "Work done" "Save in North Patli Dún C 37—39 where work was deferred"
II South Patli Dún From the Ludhpani line to the Dhara Phulinda ghat feeder of the submontane road	II Work done
III Rehar, Laljhil and Jhulon compartments	III, IV and V, work done
IV Garhibulchand	
V Chilkia and Kotah	
(4) Construction and improvement of roads	*Communications*
I North Patli Dún, extension of the Adnálá feeder Palain road 6 feet wide about 1 mile	I Work postponed owing to the sleeper works
II Extension of cart road, Doganjera branch of the Ludhpani Mandal feeder of the Patli Dún road, about 1 mile for green timber export	II Carried out.
III Lining out cart road, gradients and cutting to 3 feet of the Mundiapani Jhart branch of the Haldgadi Mundiapani	III. Ditto.
Mundiapani feeder of the Palain road	
IV Khakasgadi road as a feeder to the Patli Dún road for export of green timber about 1½ mile	IV Carried out.
South Patli Dún I Improvement of the Bamkia feeder of the Patli Dun road (for camels if feasible)	I. Found not to be feasible.
Chilkia I On Path Dún road by Domunda, reduce curves and slopes for the export of green timber to Kalagarh, &c	I Carried out.
II Open up the Sultan chour garrel feeder of the Kosi Ramganga road for carts	II Carried out
Garhibulchand I Continue special repairs of the lower submontane road (Banjara rat) as far as possible from Hasira to the east (Haldua way)	I. Carried on 2 miles from Hasira to Garhibulchand.
Carry out general repairs on all roads, &c, as per appendix C to the Budget for 1886 87 (in which also the special works noted above can be traced).	Carried out.
(5) In addition to the repairs of all existing buildings the following special works are proposed —	*Buildings.*
I Patli Dun Range	
(a) Erection of hut for rangor at Dhikala	(a) Erected
(b) Erect servants' houses at Dhikala	(a) Erected
II Dharon range 3rd class rest house at Jhirna,	II Erected.
III Garhibulchand range Erect rangers hut Phanton Revenue Depôt range	III. Commenced and will be finished by 1st June
I Erect permanent depôt building at Laldhang	I Deferred, pending further consideration as to the necessity of same
(5) Selection felling under working plan in following ranges	*Timber operations*
I Patli Dun range green sál Division II compartments 8, 9 and 3, 37, 38	I Sál fellings carried out Compartment No 37 was entered by mistake Compartments 38, 39 and 40 were felled in at Domunda
Green sain, Division II Compartments 8, 3, 12, 13.	Sain fellings carried out
II Chilkia Kotah Ranges	

Green sál, Chilkia block	II Sáll fellings carried out
I Compartments 10, 11	
Kotah Ditto 11	
III. Cutting of dry sál and other wood will (subject to fire conservancy regulations) be continued in all forests	III Carried out.
IV Bamboo cutting will be allowed in all forests subject to the rule that four uninjured growing shoots be left in each clump.	IV Carried out, and the rule fairly enforced.

GANGES DIVISION.

Sanctioned plan.	How far carried out
Complete the demarcation of the Chandi Range, B portion (now part of Gori Range) which is being done by the Collector of Bijnor	Done at a cost of Rs 520-3 10
Build 25 new pillars on the northern boundary, keep the others in repair	Done at a cost of Rs 78 8 2.
Complete office building at Naini Tal Build a Bhabar office and chauki at Sanoh somewhat similar to that at Kalagarh	Completed at a cost of Rs 320 Being built; will be completed during the present season
Protect from fire the same area as usual and also about 10 square miles in the Kotri Dun Range	Done—and also about 12½ square miles of sál fore in the Kotri Dún Range
Allow a Meerut merchant to fell sain-trees in the Chagalpani and Ugalpani sots up to about 10,000 cubic feet fell about 4,000 cubic feet of kokat timber in the Gori Range, if a merchant will contract to export it	291 trees felled giving 10,726 cubic feet of sawn timber 6,060 cubic feet were exported during the year and the balance will be exported during 1886 87 18 bakli and 150 other trees were felled and 1816 cubic feet exported during the year The felling was restricted owing to so many bakli trees being found to be hollow
Supply kokat to the Ganges Canal if indented for	No indent was received
Conduct the ordinary export of forest produce through the Kham Tahsil as usual	Done
Open the western forests to the cutting of dry standing sál trees Carefully supervise the cutting of bamboos in accordance with orders	Done, but not productive of much extra revenue. Done
The valuation of the Kotri Dún forests will be undertaken by the Working Plan Branch	No officer of the Working Plan Branch could be spared

JHANSI DIVISION.

Sanctioned plan.	How far carried out.
Forest Roads	
Repair roads from Babina to Dhakwa and from Thakurpura to Dhakwa as well as from Ghisoli.	Done Rs. 100 expended.
Buildings	
(a) Construct two houses for accommodation of forest peons at Bangawan and Rora, and a shed for storing grass at Dhakwa.	(a) Not done
(b) Annual repairs to forest inspection chaukies	(b) Done at a cost of Rs 240
Other Works	
(a) Construction of a band in the Dhakwa forest	(a) Not done
Sowing and planting.	
(b) Trees of every kind to be planted, and selected seeds to be sown in suitable places	(b) Done Rs 384 spent.
The nursery wells to be cleared and repaired where necessary.	Done Rs. 79 spent
Fire protection	
Dhakwa and Sukwa forests to be protected as usual.	Done Rs 50 spent.
Yield and Working.	
Five hundred balks to be sent to the Jhánsi and Mau depôts as well as other forest produce, to meet the local demand.	Done.

LALITPUR DIVISION.

Sanctioned plan.			How far carried out.
Cutting bamboos of all kinds	... No.	3,00,000	2,12,966 bamboos, 5,621 miscellaneous ballies, 205
Ditto teak ballies	... ,,	100	teak ballies, 1,67,843 koryas and 14,760 maunds fire-
Ditto Miscellaneous ditto	... ,,	9,000	wood were cut in and removed from forests by Govern-
Ditto Koryas	... ,,	2,67,000	ment agency and private purchasers. The plan is always liable to modification according to the local demands.
Sowing and planting	...	Rs. 100	Rupees 75 spent in sowing mahwa seed and planting bamboos and maintaining babul plantations in the Kach- nowda forest.
Protection of Deogarh and Garauli forests from fire	... ...	Rs. 100	Done, and Rs. 100 spent.
Roads and bridges	... ...	Rs. 120	Ten miles of cart tracks from Bungawa to Papro and from Thangana to ditto were duly repaired at a cost of Rs. 120.
Buildings	... ...	Rs. 230	Rs. 228-7-6 was spent in constructing a choki at Thanganah and on repairs of the existing buildings.

BANDA DIVISION.

Sanctioned plan.	How far carried out.
Erection of stone boundary pillars.	No new pillars required, 25 were repaired.
Widen and clear the boundary lines.	Commenced, and is being pushed on.
Repair existing roads.	Done where necessary.
Repair Manikpur depôt and Kôtuha Bungalow.	Usual repairs were carried out.
Repair wells.	Not required.
Cut departmentally 12,296 poles and 38,000 bamboos.	6,657 poles and 25,920 bamboos were cut.
Lease right to quarry limestone and burn it with imported wood.	Done.
Sowing of teak, &c.	Done, but failed entirely.

OFFICE OF CONSERVATOR OF FORESTS, CENTRAL CIRCLE;
Dated Naini Tal, 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator, Central Circle.

APPENDIX E.

Sunman Thapla, 2-acre Plot.

II. 4½ to 6, III. 3 to 4½, IV. under 3.

Number.	*Girth in March, 1885.* Feet.	Inches and decimals.	*Girth in March, 1886* Feet.	Inches and decimals.	Difference.
1	2	0·4	2	11·5	1·1
2	2	8 6	2	9 6	1 0
3	2	5·4	2	6 3	·9
4	2	10·5	2	11·5	1·0
5	3	9 2	3	9 9	·7
6	2	7·7	2	8 6	·9
7	2	7·2	2	9·1	1 9
8	3	2·1	3	2·6	·5
9	3	4·6	3	5·2	·6
10	2	5 2	2	5 5	·3
11	2	6·7	2	7 3	·6
12	3	7 8	3	9 2	1 4
13	4	1 2	4	2 4	1·2
14	2	6·1	2	6·7	·6
15	3	3 0	3	3·6	·6
16	1	9·6	1	10 7	1·1
17	3	0 3	3	10 7	1·4
18	4	8·2	4	8 7	·5
19	4	11 4	5	0 2	·8
20	2	3·8	2	4 0	·2
21	4	11·1	4	11·2	·1
22	1	7·2	1	7 7	·5
23	1	11·2	1	11 5	·3
24	3	8·9	3	9·2	·3
25	4	4·3	4	4·1	0 0
26	4	2 8	4	3 7	9
27	5	4·1	5	4 8	·7
28	3	0·0	3	0 8	·8
29	3	3 2	3	3 7	·5
30	1	5·7	1	5 7	0 0
31	1	10·2	1	10 5	·3
32	3	10·7	3	11·1	·4
33	2	2 0	2	2 8	·8
34	2	9 4	2	10 0	·6
35	3	3 4	3	4 0	·6
36	4	2·3	4	3 0	·7
37	3	3·0	3	4·3	·3
38	3	10 9	3	11 1	·2
39	4	8 7	4	9 7	1 0
40	2	7·9	2	8·2	·3
41	1	6 8	1	7·6	·8
42	2	8 6	2	9 4	·8
43	4	1·0	4	2 0	1 0
44	3	3 6	3	4·3	·7
45	3	7 3	3	8·1	·8
46	1	7 9	1	8 5	·6
47	3	2 1	3	2 6	·5
48	3	6·5	3	7 5	1 0
49	4	0·3	4	1·0	·7
50	3	5·1	3	5 4	·3
51	3	4 6	3	4 b	·2
52	4	5·2	4	6 5	1·3
53	3	11·9	4	0 7	·8
54	2	9 2	2	9 9	·7
55	5	1 3	5	2 0	·7
56	3	8 6	3	9 9	1 3
57	1	10·2	1	10·7	·5
58	1	2 2	1	2 1	0 (

Number.	*Girth in March, 1885.* Feet.	Inches and decimals	*Girth in March, 1886.* Feet.	Inches and decimals.	Difference.
59	2	9 9	2	10 3	·4
60	2	2 0	2	2 3	·3
61	2	2·7	2	3 4	·7
62	3	9·8	3	11 0	1·2
63	2	9 1	2	9 9	·8
64	2	5 2	2	5 8	·6
65	4	0·0	4	1·1	1·1
66	3	3 3	3	4 5	1·0
67	3	7 6	3	8 8	1·2
68	3	3 0	3	3 9	·9
69	3	9 4	3	10·3	·9
70	3	7 8	3	8 4	·6
71	4	9·1	4	10 1	1·0
72	2	8 8	2	9 7	·9
73	2	6·1	2	6 9	·8
74	3	4·9	3	6·4	1·5
75	1	6·8	1	7·2	·4
76	4	8 6	4	9 7	1·1
77	2	5·5	2	6·5	1·0
78	1	10·3	1	11 3	1·0
79	2	10 1	2	11 2	1·1
80	2	4 0	2	4 6	·6
81	3	0·9	3	1 0	·1
82	4	7 9	4	8 4	·5
83	2	0 3	2	0 3	0·0
84	3	0 2	3	0·8	·6
85	2	2·6	3	3 1	·5
86	3	9·9	3	10 6	·7
87	4	8 3	4	4 7	1·4
88	4	1 0	4	2·0	1·0
89	3	2·6	3	3 6	1 0
90	2	3 3	2	3·9	·6
91	2	7 9	2	7·9	0·0
92	2	8 6	2	9·0	·4
93	3	2 6	3	3·9	1·3
94	2	9 9	2	11·0	1·1
95	3	1 4	3	2·2	·8
96	2	10·3	2	10 7	·4
97	3	9 6	3	10 4	·8
98	2	8 3	2	6 5	·2
99	3	10·3	3	11·1	·8
100	4	7·2	4	7 8	·6
101	3	4 5	3	4 5	0 0
102	3	5 2	3	5 8	·6
103	3	9 2	3	10·1	·9
104	1	2 5	1	2·5	0·0
105	5	1 8	5	2·1	·3
106	2	8 4	2	9·3	·9
107	4	4 3	4	5 2	9
108	3	10 4	3	1 6	1·2
109	3	5·1	3	6·1	1 0
110	3	2·8	3	3 5	·7
111	2	5·3	2	5 4	·2
112	3	10·8	3	11 4	·6
113	5	3·1	5	4 7	1 6
114	4	0·6	4	1 7	1 1
115	3	5·5	3	6·3	·8

Total increase ...	82·0
Number of trees ...	115
Increase per tree ...	·71

APPENDIX E.

Sunman Thapla, ½-acre Plot

II 4½ to 6, III 3 to 4½, IV under 3.

Number	Girth in March, 1885		Girth in March, 1886		Difference	Number.	Girth in March, 1885		Girth in March, 1886		Differences
	Feet	Inches and decimals	Feet	Inches and decimals.			Feet	Inches and decimals	Feet	Inches and decimals	
1	3	4 8	3	5 9	1 1	39	4	5 0	4	6 0	1 0
2	2	2 0	2	2 3	3	40	3	7 0	3	7 5	5
3	2	6 1	2	6 2	1	41	0	10 5	0	10 6	1
4	3	4 0	3	4 7	7	42	1	5 5	1	5 5	00
5	3	0 7	3	1·2	5	43	1	5 6	1	5 6	0 0
6	1	5 3	1	5 7	4	44	2	2 1	2	2 2	1
7	3	2 1	3	3 0	9	45	4	7 7	4	8 5	8
8	4	0 1	4	0 8	7	46	2	11 2	2	11 6	4
9	3	10 4	3	10 8	4	47	3	3 3	3	4 2	9
10	2	6 8	2	6 8	0 0	48	1	3 4	1	3 5	1
11	4	4 2	4	4 8	6	49	2	7-5	2	8 0	5
12	1	7 8	1	8 0	2	50	1	9 1	1	9 5	4
13	1	1 5	1	1 3	0 0	51	2	10 2	2	10 7	5
14	2	9 4	2	9 9	5	52	2	6 8	2	7 7	9
15	1	0 5	1	0 6	1	53	1	7 5	1	7 8	3
16	2	8 7	2	9 2	1 5	54	4	11 6	5	0 7	1 1
17	1	7 0	1	7 3	3	55	0	9 5	0	3	0 0
18	1	3·2	1	3 2	0 0	56	1	5 2	1	5·3	1
19	3	5 2	3	5 7	5			Dhauri			
20	1	5 2	1	5 4	2	1	0	11 3	0	11 5	2
21	3	7 3	3	7 3	0 0	2	0	11 8	1	0 0	0 2
22	2	11 0	2	11 3	3	3	1	1 3	1	1 8	5
23	1	4 7	1	4 7	0 0	4	2	10 8	2	10 8	0 0
24	1	5 4	1	5 5	1	5	2	0 4	2	1 0	6
25	1	0 8	1	0 7	0 0	6	2	3 5	2	3 0	0 0
26	1	9 7	1	10 7	1 0			Rohini			
27	9	2 5	9	2 7	2	1	1	5 2	1	6 2	1 0
28	1	5 8	1	6 1	3	2	2	2 5	2	2 7	2
29	4	2 3	4	3 2	9	3	1	3 7	1	4 1	4
30	4	9 9	4	10 7	8	4	1	5 5	1	5 7	2
31	2	2 0	2	2 4	4	5	1	9 7	1	9 7	0 0
32	1	2 0	1	2 4	4			Indarjao			
33	1	8 5	1	8 6	1	1	1	8 4	1	8 2	0 0
34	1	5 2	1	5 0	0 0	2	1	8 5	1	8 5	0 0
35	2	7 5	2	8 0	5			Chila			
36	2	5 5	2	5 9	4	1	3	2 5	3	2 6	0 1
37	1	2 0	1	2 4	4			Harra			
38	3	4·0	3	4 6	6	1	1	1 5	...	...	...
									Total increase		3 9 1
									Number of trees ..		56
									Increase per tree .		.41

APPENDIX E.

Lakman Mandi, 2-acre Plot.

II. 4½ to 6, III. 3 to 4½, IV. under 3.

Number.	*Girth in March, 1885.* Feet.	Inches and decimals.	*Girth in March 1886.* Feet.	Inches and decimals.	Difference.	Number.	*Girth in March, 1885.* Feet.	Inches and decimals.	*Girth in March, 1886.* Feet.	Inches and decimals.	Difference.
1	3	9·7	3	8·7	1·0	58	3	11·3	4	0·6	1·3
2	4	5·8	4	6·4	·6	59	2	5·8	2	6 8	1·0
3	2	5·6	2	6·4	·8	60	3	9 5	3	10·4	·9
4	3	2·8	3	3·9	1·1	61	3	10 5	3	11·8	1·3
5	1	8 0	1	8·8	·8	62	3	5 3	3	6 4	1·1
6	2	2·6	2	4 1	1·5	63	1	7·5	1	8 1	·6
7	4	4 3	4	6 0	1·7	64	2	5·6	2	7·1	1·5
8	3	2·6	3	3·7	1·1	65	2	7·0	2	8 3	1·3
9	4	1·5	4	2·7	1·2	66	1	6·5	1	7·1	·6
10	4	11·6	5	0 4	·8	67	2	0·3	2	0 5	·2
11	4	6·1	4	7 6	1·5	68	4	0·3	4	1·7	1 4
12	4	5 5	4	6 0	·5	69	2	7 4	2	8·6	1·2
13	5	1·0	5	2 3	1·3	70	4	7·6	4	8·7	1·1
14	1	10 7	1	11·5	·8	71	4	1 6	4	2 5	1·9
15	3	7·5	3	8·5	1·0	72	3	9·8	3	11·1	1·3
16	4	6·7	4	8·0	1 3	73	1	10 8	1	11·9	1·1
17	3	7 3	3	8 2	·9	74	2	3·4	2	4·2	·8
18	3	3·0	3	4·1	1 1	75	2	2·0	2	2 7	·7
19	2	2·7	2	3·8	1·1	76	3	8 3	3	9·2	·9
20	3	4 5	3	5·5	1·0	77	4	3 9	4	5·4	1·5
21	3	1·4	3	2 2	·8	78	3	11·0	4	0·2	1·2
22	3	10 3	3	11·8	1 5	79	4	3 6	4	4·7	1·1
23	4	4 3	4	6·7	2 4	80	4	6 7	4	7·9	1·2
24	3	1 0	3	2·0	1·0	81	1	9·8	1	10 5	·7
25	2	1·2	2	2 2	1·0	82	3	4·2	3	5·0	1·8
26	1	8 4	1	9·1	·7	83	1	9 7	1	10·0	·3
27	3	11·7	4	1 7	2 0	84	2	9 2	2	10·1	·9
28	3	1·3	3	2 6	1·3	85	3	1·3	2	2·7	1·4
29	2	6 8	2	8·6	1·8	86	2	4 5	2	5·8	1·3
30	2	4·1	2	6·0	1·9	87	1	7·0	1	7·9	·9
31	3	5·3	3	11·5	1 9	88	3	10 0	3	11·1	1·1
32	3	1·8	3	2·8	1·0	89	2	8·9	2	10 7	1·8
33	2	10·2	2	11·1	·9	90	2	4 6	2	5·7	1·1
34	4	6·6	4	8·9	2·3	91	3	5·1	3	6·7	1·6
35	3	2·4	3	3·4	1·0	92	2	7·1	2	8·4	1 3
36	2	3 6	2	4·7	1·1	93	4	11·0	4	11·8	·8
37	4	7·0	4	9·1	1·1	94	1	7 0	1	9·0	2·0
38	3	4·2	3	5·7	1 5	95	4	7 5	4	8·2	·7
39	2	1·8	2	2·6	·8	96	4	9·7	4	10·7	1 0
40	2	2·4	2	3·5	1·1	97	3	1·7	3	3·0	1·3
41	2	3·2	2	4·1	·9	98	2	8·1	2	9·6	1·5
42	4	5·5	4	7·0	1·5	99	3	0·0	3	0·0	0·0
43	2	5·7	2	6·9	1·2	100	2	7·5	2	8 8	1·3
44	1	7·9	1	9·2	1·3	101	1	7·5	1	8·5	1·0
45	2	8 7	2	9 9	1·2	102	2	0 5	2	1·9	1·4
46	2	8·7	2	9·2	·5	103	1	5·7	1	6·9	1·2
47	2	11·7	3	1·1	1·4	104	1	7·1	1	8 3	1·2
48	5	0 3	5	1·8	1·5	105	2	0 7	2	2·3	1·6
49	2	0·0	2	1·7	·7	106	1	8·4	1	9·3	·9
50	1	0·0	1	0 0	0·0	107	1	7·4	1	8 2	·8
51	3	6·8	3	7 0	·2	108	1	3·2	1	3·7	·5
52	3	6·4	3	8·1	1·7	109	1	2 0	1	2·7	·7
53	2	6 5	2	6·9	·4	110	1	4 7	1	4 7	0·0
54	3	10·3	3	11·5	1 2	111	1	10·8	1	11·2	·4
55	1	4·4	1	4·5	·1	112	2	6·2	2	7·2	1·0
56	3	10·3	3	11·9	1 6	113	1	4 9	1	5·7	·8
57	3	0·7	3	1·6	·9	114	1	5·7	1	6·4	·7

Total increase ...	123·6
Number of trees ...	114
Increase per tree ...	1·08

APPENDIX E.

Lalman Mandi, ½ acre Plot.

II. 4½ to 6, III. 3 to 4½, IV. under 3.

Number	*Girth in March*, 1885. Feet.	Inches and decimal	*Girth in March*, 1886 Feet.	Inches and decimals.	Difference.	Number.	*Girth in March*, 1885 Feet	Inches and decimals,	*Girth in March*, 1886. Feet.	Inches and decimals.	Difference.
1	2	4 2	2	4 6	4	36	4	1 7	4	2 0	·3
2	2	3 3	2	4 2	9	37	0	11 9	1	0 3	4
3	4	4 6	4	4 9	3	38	2	7 6	2	7 7	·1
4	3	5 2	3	5·2	0·0	39	1	4 6	1	5 0	·4
5	4	4 0	4	4 8	8	40	1	2 5	1	2 5	0,0
6	3	7·8	3	8 4	·6	41	2	11 6	3	0 5	·9
7	1	4 6	1	4 8	·2	42	1	7 7	1	8 0	3
8	1	2 0	1	2 0	0 0	43	4	0·0	4	0 3	·3
9	1	7 2	1	7 5	3	44	1	0·6	1	0·6	0 0
10	1	9 3	1	9 5	·2	45	3	8·5	3	9 5	1 0
11	5	3 7	5	4·2	,5	46	0	10·1	0	10 2	·1
12	4	6 3	4	7 0	·7	47	1	0 7	1	1 0	·3
13	1	2·0	1	3 4	1·4	48	3	4 4	3	4·7	·3
14	1	7 8	1	8 7	9	49	0	8 9	0	9 3	4
15	0	11 3	0	11 8	·5	50	1	4 7	1	4 8	·1
16	3	1·8	3	2·5	·7	51	3	5 5	3 Dead.	6 7	1·2
17	2	11·9	2	11·9	0 0	52 53	1	8 8	1	9 1	·3
18	1	9·0	1	9 4	·4	54	1	5 5	1	6 8	1 3
19	0	11·3	0	11 2	0·0	55	4	1 6	4	2 3	·7
20	1	11·7	1	11 8	·1	56	2	11 3	2	11·5	·2
21	4	10 5	4	11 1	·6	57	2	9 7	2	10·7	1 0
22	1	9 5	1	9 8	·3	58	2	11 ¾	2	11 7	3
23	1	8·4	1	8·9	·5	59	2	7 7	2	7·8	·1
24	2	2 1	2	2 6	·5	60	3	9 1	3	9 6	·5
25	1	6 3	1	6·4	·1	61	3	7·0	3	7 0	0 0
26	1	1 8	1	2 0	2	62	2	9 3	2	9 7	·4
27	4	4 6	4	4 6	0 0	63	1	2·8	1	3 2	·4
28	2	3 0	2	3 5	·5	64	3	8 4	3	8 9	·5
29	3	8 3	3	9 1	·8	65	3	4 2	3 Chila	5 0	·8
30	1	3 6	1	4·2	·6	1	3	6 8	3 Rahni.	6 8	0 0
31	4	5 5	4	6 3	·8	1	1	6·7	1	7 1	·4
32	1	2·8	1	3·6	·8	2	1	1 7	1 Dhauri	2 0	·3
33	3	6 4	3	7 0	·6	1	1	2·6	1	2·7	·1
34	2	7 1	2	7·6	·5	2	0	9·1	0	9 7	·6
35	4	5·7	4	6 4	·7	3	2	3 6	2	6 7	3 1
								* Total increase	...		29 0
								Number of trees	...		64·
								Increase per tree	...		·45

APPENDIX E.

Record of growth of Sál in sample plots in the Chilkia Forest, Garhwál Division

[Amtanola ½-acre plot unthinned.]

Number of trees	Girth in March, 1885.			Girth in March, 1886			Difference.			Number of trees.	Girth in March, 1885			Girth in March, 1886.			Difference.		
	Ft.	in	ths.	Ft	in.	ths	Ft.	in	ths		Ft.	in.	ths	Ft	in.	ths	Ft	in	ths.
1	4	7	3	4	8	5	0	1	2	37	1	10	7	1	10	9	0	0	2
2	1	3	7	1	3	9	0	0	2	38	3	6	7	3	7	4	0	0	4
3	2	8	2	2	8	1	...			39	3	8	5	3	8	5	...		
4	4	5	6	4	5	9	0	0	3	40	2	7	1	2	7	1	...		
5	2	11	3	2	11	9	0	0	6	41	3	0	8	3	1	0	0	0	2
6	1	11	8	2	0	3	0	0	5	42	3	0	2	3	0	5	0	0	3
7	1	10	6	1	10	8	0	0	2	43	2	7	6	2	8	0	0	0	4
8	3	7	6	3	7	6	...			44	2	9	8	2	9	9	0	0	1
9	1	8	2	1	8	5	0	0	3	45	4	0	8	4	1	3	0	0	5
10	4	1	8	4	2	1	0	0	3	46	1	9	2	1	9	3	0	0	1
11	4	6	1	4	6	5	0	0	4	47	1	5	5	1	5	4	...		
12	2	6	1	2	6	3	0	0	2	48	2	10	4	2	10	7	0	0	3
13				Dead						49	1	11	7	1	11	6	...		
14	3	10	7	3	11	9	0	1	2	50	4	10	2	4	10	7	0	0	5
15	1	4	9	1	5	3	0	0	4	51	3	4	5	3	4	8	0	0	3
16	4	1	3	4	1	6	0	0	3	52	3	4	3	3	4	6	0	0	3
17	1	6	6	1	6	6	...			53	3	8	2	3	8	3	0	0	1
18	2	2	8	2	3	0	0	0	2	54	1	11	7	1	10	8	...		
19	2	6	0	2	6	4	0	0	4	55	1	6	3	1	6	4	0	0	1
20	2	7	4	2	7	5	0	0	1	56	2	11	3	3	0	1	0	0	8
21	4	6	8	4	7	1	0	0	3	57	2	2	8	2	2	9	0	0	1
22	3	0	1	3	0	3	0	0	2	58	2	3	8	2	4	0	0	0	2
23	3	9	9	3	10	2	0	0	3	59	4	6	9	4	7	8	0	0	9
24	2	11	8	3	0	1	0	0	3	60	2	6	3	2	6	3	...		
25	4	5	8	4	6	1	0	0	3	61	5	8	5	5	9	9	0	1	4
26	2	8	5	2	8	8	0	0	3	62	2	8	0	2	8	3	0	0	3
27	4	4	8	4	5	3	0	0	5	63	3	11	8	4	0	3	0	0	5
28	2	4	6	2	4	8	0	0	3	64	2	11	9	3	0	5	0	0	6
29	5	9	8	5	11	3	0	1	5	65	2	11	0	2	11	4	0	0	4
30	2	0	3	2	0	4	0	0	1	66	1	5	8	1	6	0	0	0	2
31	4	9	5	4	10	4	0	0	9	67	2	7	9	2	8	0	0	0	1
32	1	7	0	1	7	2	0	0	2	68	1	8	3	1	8	4	0	0	1
33				Dead						69	2	1	6	2	2	0	0	0	4
34	4	2	9	4	3	4	0	0	5	70	3	7	5	3	7	7	0	0	2
35	3	9	3	3	10	5	0	0	7	71	3	10	9	3	11	0	0	0	1
36	2	8	9	2	9	3	0	0	4	...	...			...			...		
											Total number of trees ...						69		
											Total increase in girth ...						24 0		inches
											Increase per tree ...						·35		inches.

APPENDIX E.

Record of growth of Sál in sample plots in the Chilkia Forest, Garhwál Division.

[Amtanola 2-acre plot unthinned.]

Number of trees.	Girth in March, 1885.	Girth in March, 1886.	Difference.	Number of trees.	Girth in March, 1885.	Girth in March, 1886.	Difference.
	Ft. in. ths.	Ft. in. ths.	Ft. in. ths.		Ft. in. ths.	Ft. in. ths.	Ft. in. ths.
1	4 3 9	4 5 4	0 1 5	58	5 0 4	5 1 7	0 1 3
2	1 10 5	1 11 0	0 0 5	59	3 10 7	3 11 0	0 0 9
3	2 5 5	2 6 1	0 0 6	60	4 2 7	4 4 0	0 1 5
4	3 7 2	3 8 4	0 1 2	61	3 8 4	3 9 3	0 0 9
5	3 1 6	3 2 0	0 1 4	62	3 1 0	3 2 0	0 1 0
6	3 9 7	3 10 1	0 0 4	63	4 2 7	4 2 9	0 0 2
7	4 5 1	4 5 7	0 0 6	64	4 9 1	4 10 2	0 1 1
8	3 9 9	3 10 9	0 1 0	65	4 4 7	4 5 8	0 1 1
9	2 10 2	2 11 5	0 1 3	66	3 9 0	3 10 4	0 1 4
10	3 7 2	3 9 1	0 1 9	67	5 0 7	5 1 6	0 0 9
11	4 0 6	4 2 3	0 1 7	68	3 4 3	3 5 0	0 0 7
12	3 1 3	3 2 0	0 0 7	69	4 1 8	4 2 7	0 0 9
13	3 3 7	3 4 9	0 1 2	70	4 11 4	5 0 7	0 1 3
14	3 1 9	3 2 9	0 1 0	71	3 10 1	3 11 0	0 0 9
15	4 4 3	4 5 7	0 1 4	72	4 5 0	4 6 0	0 1 0
16	4 7 2	4 8 1	0 0 9	73	4 3 5	4 4 4	0 0 9
17	4 6 5	4 7 4	0 0 9	74	3 9 0	3 10 0	0 1 0
18	2 9 8	2 10 7	0 0 9	75	4 5 1	4 6 0	0 0 9
19	4 2 7	4 3 9	0 1 2	76	3 7 4	3 8 1	0 0 9
20	4 3 4	4 4 6	0 1 2	77	4 2 2	4 3 5	0 1 3
21	4 7 2	4 8 3	0 1 1	78	4 0 2	4 1 5	0 1 3
22	3 8 3	3 9 4	0 1 1	79	3 5 2	3 5 7	0 0 5
23	4 7 0	4 7 9	0 0 9	80	3 11 3	4 0 1	0 0 6
24	4 9 5	4 11 0	0 1 5	81	4 1 3	4 2 9	0 1 6
25	4 8 0	4 9 3	0 1 3	82	3 1 8	3 2 3	0 0 5
26	4 0 4	4 1 5	0 1 1	83	3 6 1	3 7 0	0 0 9
27	4 8 0	4 9 0	0 1 0	84	3 10 5	3 11 6	0 1 1
28	3 5 4	3 6 5	0 1 1	85	2 10 0	2 10 7	0 0 7
29	4 11 2	5 1 0	0 1 8	86	4 1 5	4 2 9	0 1 4
30	4 6 2	4 7 3	0 1 1	87	4 1 3	4 2 7	0 1 4
31	4 3 7	4 4 6	0 0 9	88	3 0 6	3 1 5	0 0 9
32	5 1 0	5 2 7	0 1 7	89	4 1 1	4 2 1	0 1 0
33	3 6 2	3 6 9	0 0 7	90	4 0 2	4 0 4	0 0 2
34	4 3 1	4 3 7	0 0 6	91	3 11 1	4 0 3	0 1 2
35	3 11 7	4 0 2	0 0 5	92	3 3 3	3 4 1	0 0 8
36	4 7 2	4 8 6	0 1 4	93	2 9 8	2 10 7	0 0 9
37	2 3 1	2 4 1	0 1 0	94	3 2 6	3 3 3	0 0 7
38	3 4 5	3 5 8	0 1 3	95	3 1 5	3 2 4	0 0 9
39	3 5 4	3 6 2	0 0 8	96	3 6 0	3 6 5	0 0 5
40	3 1 0	3 1 5	0 0 5	97	5 1 0	5 2 9	0 1 9
41	3 9 8	3 10 7	0 0 9	98	3 5 6	3 6 6	0 1 0
42	3 7 2	3 8 2	0 1 0	99	1 5 8	1 6 3	0 0 5
43	3 0 5	3 1 5	0 1 0	100	5 0 5	5 0 9	0 0 4
44	3 11 2	4 0 4	0 1 2	101	4 2 2	4 3 1	0 0 9
45	3 1 0	3 1 7	0 0 7	102	3 7 3	3 8 3	0 1 0
46	4 6 1	4 7 3	0 1 2	103	4 0 5	4 2 0	0 1 5
47	4 5 2	4 6 5	0 1 3	104	3 3 5	3 4 4	0 0 9
48	3 3 0	3 3 6	0 0 6	105	4 3 5	4 4 0	0 0 5
49	3 9 0	3 9 3	0 0 3	106	4 2 2	4 3 3	0 1 1
50	4 4 2	4 5 7	0 1 5	107	3 1 7	3 2 3	0 1 6
51	2 8 5	2 9 1	0 0 6	108	4 5 5	4 6 8	0 1 3
52	2 11 4	2 11 6	0 0 2	109	3 4 7	3 4 6	... .
53	3 4 6	3 5 4	0 0 8	110	3 4 4	3 5 3	0 0 9
54	3 4 6	3 5 8	0 1 2	111	3 7 0	3 7 9	0 0 9
55	4 6 0	4 7 6	0 0 7	112	3 9 6	3 11 1	0 1 3
56	4 6 8	4 6 9	0 0 1	113	3 9 7	3 10 9	0 1 2
57	4 8 3	4 10 0	0 1 7	114	3 11 2	3 11 5	0 0 3

Total number of trees ...	114
Total increase in girth ...	inches. 111·3
Increase per tree ...	·98

Office of Conservator of Forests, Central Circle,
Naini Tal, the 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

APPENDIX F.

FOREST DEPARTMENT, CENTRAL CIRCLE, N.-W. P. AND OUDH.

List of Buildings and Wells maintained for the use of Forest Officers and Subordinates.

Description	For the use of		Offices, stores, chaukis, &c	Wells	Total	Remarks
	Officers	Subordinates				
DIRECTION DIVISION.						
Permanent	...	...	1	...	1	The office building contains rooms for the Kumaun and Garhwál offices also
Total ...	...	...	1	...	1	
NAINI TAL DIVISION.						
Permanent	1	6	3	...	10	
Semi permanent	1	...	...	...	1	
Temporary	...	1	...	...	1	
Total ...	2	7	3	...	12	
DITTO RÁNIKHET SUB-DIVISION						
Permanent	1	2	...	...	3	
Semi permanent	1	...	...	...	1	
Temporary ...	...	...	...	...	...	
Total ...	2	2	...	...	4	
KUMAUN DIVISION						
Permanent	2	1	12	1	16	
Semi permanent	...	...	...	...	...	
Temporary	...	...	...	...	...	
Total ...	2	1	12	1	16	
GARHWÁL DIVISION.						
Permanent	9	2	*10	2	23	* Including 2 sheds for elephants.
Semi-permanent ...	...	...	...	...	...	
Temporary	...	...	...	1	1	
Total ...	9	2	10	3	24	
GANGES DIVISION						
Permanent	2	...	4	2	8	Differences in the Kumaun, Garhwál, and Ganges Divisions as compared with last year's list, owing to reconstitution of these Divisions. In the Ganges Division four permanent buildings and one semi permanent one handed over, to the Tehri State with the leased forests
Semi-permanent	...	...	...	...	...	
Temporary	...	...	...	...	...	
Total ...	2	...	4	2	8	
JHÁNSI DIVISION.						
Permanent	...	...	...	1	1	
Semi-permanent	1	...	3	...	4	
Temporary	...	...	...	...	...	
Total ...	1	...	3	1	5	
LALITPUR DIVISION						
Permanent	...	...	...	...	...	
Semi permanent	2	...	21	...	23	
Temporary	...	...	...	...	...	
Total ...	2	...	21	...	23	
BÁNDA DIVISION						
Permanent	...	...	...	...	...	
Semi permanent ...	1	...	1	...	2	
Temporary	...	...	...	...	...	
Total ...	1	...	1	...	2	
GRAND TOTAL ...	21	12	55	7	95	

NAINI TAL
The 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

APPENDIX G.

Comparative statement of the estimated yield of timber during the three years 1883-84 to 1885-86, as given in Appendices A., B., and C., and the actuals for the corresponding working seasons in the Kumaun, Garhwál, and Ganges Divisions.

Description.	1883-84.				1884-85.				1885-86.			
	Estimated yield.		*Actual yield.*		*Estimated yield.*		*Actual yield.*		*Estimated yield.*		*Actual yield.*	
	Cubic feet.	Value.	Cubic feet.	Value.	Cubic feet.	Value.	Cubic feet.	Value.	Cubic feet.	Value.	Cubic feet.	Value.
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
*Green timber	424,217	2,80,825	369,564	2,03,329	412,306	1,94,134	421,200	1,95,362	404,754	2,24,925	362,227	2,09,766
Dry timber	274,664	1,08,232	316,362	1,31,500	244,475	71,399	258,502	93,814	213,696	65,638	267,744	83,921
Total	698,881	3 09,057	685,926	3,34,829	656,781	2,65,533	679,702	2,91,176	618,450	2 90,563	619,971	2,93,689

NAINI TAL:
The 7th August, 1886.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

No. $\frac{\text{L.G.}}{80}$ of 1886-87.

From

Captain E. WOOD,

Conservator of Forests, N.-W. P. and Oudh, Oudh Circle,

To

W. C. BENETT, Esq., *C.S.*,

Offg. Secy. to Govt., N.-W. P. and Oudh, Revenue (Forests) Dept.

Dated Naini Tal, the $\frac{19}{14}$th August, 1886.

Sir,

I have the honor to forward the annual progress report on forest administration in the Oudh Circle for 1885-86.

I have the honor to be,

Sir,

Your most obedient servant,

E. WOOD, Captain,

Conservator of Forests, Oudh Circle.

OUDH CIRCLE REPORT.

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OUDH CIRCLE.

N.-W. PROVINCES AND OUDH.

ANNUAL PROGRESS REPORT

OF

FOREST ADMINISTRATION

FOR THE YEAR ENDING 31st MARCH, 1886.

By Captain E. S. Wood, Conservator of Forests, Oudh Circle.

INTRODUCTION.

1. *Conservator's inspection of forests.*—I commenced (14th October) the camping season by visiting the Forest School at Dehra, where, by permission of His Honor the Lieutenant-Governor and Chief Commissioner, I met the Officiating Inspector-General of Forests and made arrangements for the services of officers to help in the sleeper operations and for the commencement of an enumeration survey of the Kheri forests (trans-Sárda). I also visited the School itself; this visit was, I believe, one of mutual benefit to myself and the School, and the Officiating Director has recommended that other Conservators should make similar visits, which the Government has approved of. I then proceeded to Gorakhpur, where I arranged for sleeper operations in that Division: and having visited Bhinga to see the state of the sál seedlings shortly after the rains, and Nawabganj, Gonda, for somewhat similar reasons, I returned to Bahramghát Depôt; then proceeded to Pilibhít, where, with Lieutenant-Colonel Campbell, I arranged for the continuation of the fuel operations in the Káli-lar block. I then dropped down the Sárda and arranged with Mr. Allan, the Divisional Officer, for the sleeper works, and with Mr. Broun for the starting of enumeration survey (Mr. Broun was helped in the beginning by Mr. Fernandez); then through the Division to the east, where I again took a boat and went to Nishangara, where I met Mr. Dansey and arranged with him for the thinning and fuel operations in the sál forests: thence went by boat to Bahramghát, visiting on the way the landing-place of sleepers from Kheri for the Nepalganj extension of the Bengal and North-West Railway from Bahraich. I then proceeded to Bhinga to meet His Honor the Lieutenant-Governor and Chief Commissioner, who had, at first, hoped to have made a prolonged tour in the Bahraich Division, but, owing to the illness of His Excellency the Viceroy, the longer tour had to be given up and a shorter one adopted; but even then the weather prevented His Honor from following out even the shorter trip, as the country became impassable, and he had to return from Kakardari, some 18 miles from Bhinga. I, after a short halt, inspected the Soholwa forests and moved across country by Balrampur and Biskohar to Uskabazár, the north-west terminus of the new Uská-bazár Branch of the Bengal and North-West Railway from Gorakhpur. I then visited the forests of Gorakhpur, saw the depôts where sleepers were being sawn, and arranged with Mr. Campbell for the completion of the present lines and to make them fit in with a net-work of roads which will converge on Pharainda station, and thus open out the northern forests. I then proceeded to Gonda, visited the Nawabganj forest, and met my camp at the north-east corner of Gonda, and, with Mr. Robsch, inspected the main Gonda forests. I then had to visit Lucknow and returned to Bahraich, where I met Mr. Ribbentrop, the Officiating Inspector-General of Forests, with whom I marched through the

Motipur Division of Bahraich, through the Kheri Division (trans-Sárda), part of the Bhirá sub-division of Kheri, and the Pilibhít Division. With Mr. Ribbentrop I returned to Lucknow, where he had the privilege of a personal interview with His Honor the Lieutenant-Governor and Chief Commissioner. Having paid another visit to Bahramghát and Gorakhpur, to see to the progress of the sleeper operations for the Bengal and North-West Railway, I arrived at Naini Tal on the 23rd of May, 1886. I thus visited Bhira once, Kheri, Gonda, and Pilibhít twice, Bahraich, Gorakhpur, and Bahramghát three times during the working season.

2. *Inspection of offices.*—I inspected all the divisional offices, found them in order, and reported the same to Government and to the Comptroller-General, Forest Branch.

3. *System of working through and with District Officers.*—The system is working well, and the more the District Officers see of forest work, the more, I believe, are they convinced of the benefits of forest conservancy and the more interest do they take in the work. Lieutenant-Colonel Currie and Mr. Bateman have given great help, and Mr. Campbell in Gorakhpur is very grateful to Mr. Mollor for the kind assistance he has given him.

4. *The year* 1885-86.—This year His Honor the Lieutenant-Governor and Chief Commissioner visited the forests, though the visit was a very short one on account of the weather. The Officiating Inspector-General of Forests, Mr. Ribbentrop, also visited the Circle, principally with a view of seeing whether the Kheri Division (trans-Sárda) was being overworked and for the drawing up of a working plan for that Division. I believe that Mr. Ribbentrop will report fully on the subject. Again there were extended sleeper operations for the Bengal and North-West Railway, and for the Lucknow-Sitapur Railway, north of Sitapur. The cold-weather rains were very heavy and frequent, doing much good to reproduction and fire conservancy, but hindering our carting work very much indeed.

The weather in the winter was peculiarly free from frost, this being the first year in which I have noticed that the sál scrub *chándars* in Bhira and Pilibhít escaped from frost.

5. *Rights and concessions.*—I have in letters No. $\frac{\text{L G.}}{58}$ of 24th June, 1886 and No. $\frac{\text{L G.}}{55}$ of 24th June, 1886 reported fully on the Pilibhít forest settlement as regards rights and as regards concessions in the other forests in the Oudh Circle.

CHAPTER I.

AREAS AND BOUNDARIES.

6. *Area of the Circle.*—The area remains practically the same; there is a gain of 21 acres, being the difference to the good on an exchange with Sardar Hira Singh in Bahraich of 988 acres added and 967 acres of forest fringe given up, by which some village lands inside forest boundaries have been obtained and the boundary shortened by some 10 miles.

In last year's report Mr. Ponsonby made some alterations which I hardly think advisable, but as the figures are still subject to revision, I have adopted them, as they may be nearer the actuals than former figures. But he made an error in adding 11,010 acres, the Katna grants, which he called "protected forests;" these I have taken out in Annual Form 49. Five thousand and fifty-three acres will be added to the reserved forests in 1886-87, the rest having been handed over to the Deputy Commissioner's management (see remarks 1 and 4, Form 49). Two small sál-bearing grants on the Bengal and North-West Railway line, about three miles east of Mankapur, Gonda, have been made over to the Forest Department, and will be included in the area statement, Nawabganj forests, Gonda, of 1886-87.

7. *Area of Divisions.*—The areas of Divisions are as below :—

	1885-86 and 1886-87.	1883-84.	Difference in calculating.
	Square miles.	Square miles.	
Pilibhít	152	137	+ 15.
Bhira Sub-division, Kheri ...	143	164	— 21
Kheri (trans-Sárda)	263	263	Not altered.
Bahraich	325	257	+ 68 principally in section VIII, Sohelwa.
Gonda	154	154	Not altered.
Gorakhpur	157	157	Ditto.
Total ...	1,194	1,132	

The area given in the report of 1883-84 has thus been increased in calculations by 62 square miles. Kheri and Bahraich are double charges, so that the six Divisions have eight charges of about 150 square miles each. I had hoped to have got the area statements accurate, but my time has been occupied in more important matters ; but with the new proposed permanent establishment I hope that correct maps will be made of the different charges on the scale of 4 miles=1 inch : these can be easily compiled in the Conservator's office by a good draftsman from maps already existing and the Revenue Survey maps of Oudh and Pilibhit. The land settlement survey is in Gorakhpur, and arrangements have been made to get these forests surveyed with all detail : so that when they are complete, a proper set of maps of the Oudh Circle can be made. The forests will be divided into about 24 Foresters' or Rangers' charges of about 50 square miles each, and each upper subordinate will have a perfect map on the large scale of his own special charge.

8. *Change of areas in Divisions.*—The only practical change has been the one above referred to in Bahraich : this is referred to in the Annual Forest Report for 1883-84, para. 8 (*d*). With regard to the same para., (*a*) in Pilibhít it has been decided that all the forests open to right-holders shall be held to be reserved forests. (*c*) I have heard nothing definite of the settlement of the claims of the Rája of Khairigarh to those parts of the grass "phantas" adjoining the sál forests. The Rája died in the end of November, 1885. I have recommended certain exchanges with the Rája's estate, giving to it adjoining forest lands which would pay him even better than the grass lands inside the forest, and allowing the Forest Department complete control of the grass lands, which could thus be utilized to their utmost and controlled at a less cost than at present, or if not at a less cost, more efficiently allowing a larger area of sál forests to be closed against grazing and fires. The effecting this exchange is of the utmost importance to the well-being of sál forests in Khori (trans-Sárda). (*e*) The lands of Yakub Bankat and Ashrafabad in Gonda have been made over to the Forest Department, and the legal formalities are being proceeded with to constitute them reserved forests. (*f*) In Gorakhpur every forest or grass land on which the owners are not prepared to pay a fair annual revenue should be made over to the Forest Department where conveniently situated ; as regards this I would beg to draw attention to the remarks made further on as regards the value of the thatching-grass in Gorakhpur and Gonda (para. 24).

9. *Circle boundaries.*—The progress made in ditching forest boundaries is shown below :—

Division.	Miles new ditching.	Miles broad boundary cleared	Number of posts erected.	Miles Nepal boundary cleared.
	M. f.	M. f.		M. f.
Pilibhít ...	...	...	...	...
Bhira ...	17 5	18 0	...	...
Khori (trans-Sárda) ...	...	...	...	13 4
Bahraich ...	...	...	...	52 0
Gonda ...	...	23 7	113 masonry pillars.	37 7
Gorakhpur ...	32 0	...	...	...
Total ...	49 5	41 7	113	103 3

The Nepal boundary was cleared by Forest Officers with money supplied by the Deputy Commissioners from Imperial funds. The two small portions in Bahraich, referred to in para. 11 of Report of 1883-84, were settled by the Resident on the spot in the cold season of 1884-85. The Nepalese are doing comparatively nothing towards clearing a strip of ground on their side of the boundary in forests, the only really neutral strip being in cultivation between the forests. A commencement was apparently made in the forests north-west of Bhagora Tal, but was not carried on more than a few hundred yards ; they have done nothing in Kheri or in Gonda, or in Bahraich, with the small exception above noted. Officers inspected their boundaries in the course of their inspections : they are generally in good order, except in sandy places, where the soil gets washed in.

CHAPTER II.

SURVEYS, WORKING PLANS, AND ANNUAL PLANS OF OPERATIONS.

10. *Valuation Surveys—Circle.*—The usual measurements of trees to ascertain the rate of growth of sál were made in Pilibhít, Bhira, Kheri (trans-Sárda), and Bahraich. The Kheri (trans-Sárda) figures will help in the working plan now in progress. No word has been received of the sections of sál and sissu of known age from Professor Nordlinger, referred to in para. 12 of 1883-84 Report.

11. *Working Plans—Circle.*—The Inspector-General of Forests, after his inspection, will probably have made suggestions regarding working plans for Pilibhít, Bhira, Kheri (trans-Sárda), and the Motipur sub-division of Bahraich.

12. *Working plans—Divisional.*—In Pilibhít strip fellings were carried on in the Káli-lar forest. In Bhira nothing was done owing to the progress of the railway being slower than was anticipated. In Kheri the temporary working plan of 2,500 selection fellings was carried out. In the Motipur sub-division of Bahraich a commencement was made in improvement fellings, which is the commencement of the working plan of that sub-division. In Gorakhpur the usual thinnings were carried out. These will be found more detailed hereafter. A commencement was made in Kheri (trans-Sárda) to collect information for the formation of a more permanent working plan. Mr. Broun, from the School Circle, was in charge of the working plan (and had at the commencement of the work the assistance of Mr. Fernandez of the School Circle), and nine students who had completed the second year's course from the Dehra School were under his orders, and with a staff of chainmen commenced the work of enumeration. The party commenced work about the 15th November and left off at the end of March. An endeavour was made at first by taking certain measured areas of fixed types of forest and counting the trees on them, to calculate the number of trees of different kinds in larger known areas, *viz.*, compartments; but owing, (1) to the difficult nature of the forest (the forest itself being patchy and not regular), (2) the errors in fixing the types, and (3) the errors made in assuming the various areas covered by the various types, the results were unsatisfactory, as was proved by actual enumeration in the compartments in which the calculations were made, and this method had to be given up and actual counting had to be substituted.

The results were that the trees on only about 6,000 acres of forest in the vicinity of Dudua were counted, but four out of the nine students were away on the sleeper operations (two European students for the first half of the time, two natives for the latter). The detail of the counting will be found in Appendix I. An attempt was made to distinguish sound and unsound trees, but this cannot be relied on. I herewith give an abstract of the countings (A), so as to be able to compare this with the actual

lineal surveys I made in the same part of the forest in 1868 and 1869 (B.) and with the abstract on 599·32 acres of forest all over the Kheri forest (C.) :—

	Sal				Assanna.				Miscellaneous			
	I	II	III	IV	I	II.	III.	IV	I	II	III	IV
A ...	27	47	94	247	11	17	35	92	04	08	40	211
B ...	37	61	100	330	10	23	40	98	07	11	59	417
C* ...	37	54	105	306	08	14	33	59	02	00	57	384

* Appendix IV, Report, 1871-72—corrected.

The work may be said to be preliminary to the work that will be undertaken this cold weather. The students have learnt something and Mr. Broun has gained practical experience Mr. Broun's pay is charged to "B," Establishments, and the students' charges were paid by their provinces. The workmen were paid by the Kheri Division : the cost was Rs. 1,474.

13. *Annual plans of operations—Circle.*—These were greatly interfered with by the curtailment of expenses in all things that were not considered to be of a directly paying character, and the expenses were curtailed by Rs. 16,000. After the budget was sent in, arrangements had to be made for 1,60,000 sleepers for the Bengal and North-West Railway, *viz*, for the Uska Branch from Gorakhpur and the extension from Bahraich to Nipalganj and for fuel operations.

14 *Annual plans of operations—Divisional*.—In Pilibhit the fuel operations were smaller than were expected, and the fuel was sold on the spot, rendering expenditure for carting to market unnecessary. In Bhira no fuel operations were started, Lieutenant-Colonel Campbell having sufficient to do in Pilibhit, and the railway from Lucknow made slower progress than was expected. In Kheri large sleeper works were undertaken. In Bahraich the money was not all spent owing to difficulties of carting, the sleeper operations from Kheri to Nánpara and Bahraich absorbing most of the available carriage. In Bahramghát the indents from the Department Public Works were few, the jail and the railway being the chief customers. In Gorakhpur the large sleeper operations took up the Divisional Officer's time almost entirely. An abstract of the annual working plans will be found in Appendix 2 of this report.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

(1) Establishment.

15. *Superior staff.*—The charges in the superior establishment during the year were as below :—

Charges	Officer in charge.	Remarks
Oudh Circle	Captain Wood	Captain Wood went on three months' privilege leave from 28th April to 27th July, 1885
	Mr Ponsonby	Mr Ponsonby officiated during that time in addition to his own duties
Pilibhit Division	Ditto	From 1st April, 1885 to 23rd July 1885.
	Lieut.-Col Campbell	From 24th July, 1885 to end of the year
Bhira Sub-division	Mr Ponsonby	From 1st April, 1885 to 24th July, 1885
	Lieut Col Campbell	From 25th July, 1885 to end of the year.
Kheri Division (trans Sárda)	Mr Allan	Whole year
	Assisted by Mr Rebsch	From 1st April to 18th July, 1885
	Ditto Mr Bryant	From 3rd January to 25th March, 1886.
Working Plans, Kheri (trans Sárda)	Mr Broun	From 17th November, 1885 to end of the year
Bahraich Division	Mr Dansey	Whole year.
Gonda Division	Lieut Col Campbell	From 1st April 1885 to 18th July, 1885
	Mr Rebsch	From 19th July, 1885 to end of the year
Gorakhpur Division	Mr. Campbell	Whole year
Bahramghát Division	Babu Kanhaya Lal	Ditto

I had hoped to have been able to have got more assistance in Kheri, but the officers could not be spared from the Central or School Circle. With the increased work of sleepers and timber and fuel operations the staff is very weak.

16. *Subordinate staff.*—Our subordinate establishment is still that which was sanctioned some 11 years ago, but it is helped by a temporary establishment. Arrangements are being made to go up to Government with proposals for an amalgamation of establishment, making smaller charges and the subordinate in charge being responsible for the work in his smaller charge.

17. *Dehra School.*—Forester Parmeshri Din was away most of the year, returning only in April, 1886. He has had to return to Dehra, as his education was not completed, he having gone to the School not fully up to the required standard.

(2) General Protection and Breaches of Forest Law.

18. *General protection.*—The closed area was gazetted as protected from grazing, shooting in the dangerous time, and also the general entrance of the public; as a whole the protection has been efficient.

19. *Breaches of Forest Law—Circle.*—The result of prosecutions for breaches of forest law were as below :—

Year.	Prosecutions.			Convictions.	Acquittals.	Cases pending at close of the year.
	Pending.	New.	Total.			
1883-84	2	59	61	45	11	5
1884-85	5	77	82	64	17	1
1885-86	1	59	60	53	7	..

20. *Breaches of Forest Law—Divisional.*—I have given the results of past three years, the cases in 1884-85 being heavier than usual. In Kheri, Mr. Allan attributes the absence of prosecutions to the fact of his possessing magisterial powers; the greatest number of cases are in Gonda, where the people will continue to commit cattle trespass. Bahraich is next on the list, lopping, cattle-trespass, and petty theft being the principal crimes.

21. *Compounding offences.*—In 1883-84 there were 23 cases, last year 25, and in the year under review 44 (of these one was acquitted). The increase is principally owing to unauthorized grazing and felling; but this was to be expected, as a much larger area of forest was closed which the people have not yet got accustomed to.

(3) Forest Fires.

22. *Fire-conservancy—Circle.*—The year was very favourable; there were good late rains, as shown by the extensive rabi, and the cold season of 1885-86 was remarkable for the heavy rains: there was a heavy fall in December, 1885, heavy showers before the end of financial year, and much stormy weather with heavy showers in the commencement of May, 1886.

The following statement shows the result of fire conservancy operations from 1st July, 1885 to 30th June, 1886.

Division.	Area attempted to be protected.	Failures.	Actually protected.	Cost.	Remarks.
	Acres.	Acres.	Acres.	Rs.	
Pilibhit	43,778	4,808	38,970	1,182	Area actually protected 96·60 per cent.
Bhita	34,292	1,390	32,902	1,107	3·40 burnt.
Kheri	42,130	160	41,970	3,228	6·4 pies per acre cost.
Bahraich	130,566	350	130,216	3,606	
Gonda	32,088	4,437	27,651	153	
Gonalhpur	74,590	1,020	73,570	2,311	
1886 ...	3,57,448	12,165	345,283	11,589	
1885 ...	2,53,966	2,478	251,490	11,805	
	+103,480	+9,687	+93,793	—216	

The attempted area was increased by about 162 square miles, increasing the area from 397 to 558 in a forest area of 1,194 square miles. This does not include the area actually protected without a regular establishment in Gonda ; so that about half the forests are kept from fire, though cattle are not excluded from the whole fire-protected area.

23. *Fire conservancy—Divisional.*—Pilibhit attempted 43,778 acres against 33,388 last year; failures principally in open *chándars*, where little damage to tree growth was done. Special care was taken to protect the areas worked in for fuel. Bhira attempted 34,292 against 26,878 of former year: of the 1,390 acres failures 565 were grass: the failures were in the newly-closed portion, which was not fully marked off till the close of the year. Kheri (trans-Sárda), 42,130 acres, the same as last year ; failures, a thin strip of forest adjoining the Phulwaria line, about 160 acres, was burnt from the fault of the forester burning grass ; whilst there was a wind ; another fire was from the sawyers between Sonaripur-Bhunian Phanta and Sonaripur-Rahta lines, about 10 acres ; the sawyers were heavily fined ; the third, about one acre, was probably caused by the men carting out sleepers near Changa Nála. Bahraich, 130,560 against 76,932 : failures 320 acres in compartment 5, Bharta block, 25 acres, compartment 3, and 5 acres, compartment 4, Bhinga block.

In Gorakhpur two small fires took place in the Sonari and West Lehra forests which were caused by certain graziers. In the Ramgarh block three fires took place, aggregating about 1,000 acres ; these fires were caused by ballast trains running on the line of the Bengal and North-West Railway through the carelessness of the engine-drivers, who should be warned to be more careful when passing through Government reserves.

In Bahraich much work was done in widening the fire-lines which, where these had first been cut in scrubby grass, were only 15 feet broad: they have now been widened out to 45 feet generally.

In Gonda, section IV., the failures were 900 acres, which are principally attributed to the fires coming down from the hills. In Nawabganj the greater portion of Moneypur, Sajai, and Glyn Grant, about 3,500 acres, were burnt ; these forests are surrounded by private forests of grass lands, and the danger from fire is thereby greatly increased. In Sambhunagar grant some 37 acres were burnt. The Ramgarh block was successfully protected. A great part of the area which was formerly considered as being saved from fire without special measures of conservancy has now come in, in Bahraich, under fire conservancy.

It may be said that altogether half the forest escapes being burnt ; but it must be remembered that in many places, particularly in the grass plains, we burn the grass as a means of protection to the tree forests where they adjoin : when the grass is either grazed off or reaped the burning will be unnecessary.

(4) Grazing and Fencing.

24. *Grazing.*—The grazing dues amounted to Rs. 41,309. What is principally required is to keep the cattle out of the sál forests, utilizing every bit of legitimate grazing ground. The best way to do this, it appears to me, is to put comparatively small fees on the cattle that graze in the legitimate grazing-grounds and a very heavy one on the cattle that graze in the sál forests. There is better pasturage in the low grass grounds; but it is so much easier to let the cattle go into the sál forests and wander about of their own accord without a herdsman, or with only one or two children with a village herd, than to establish a cattle-station a few miles off, where the herdsmen will have to live away from the village.

This was all very well when the forests were thought nothing of for timber; but now that Government is spending money on the perservation and upkeep of the timber forests, it is time that such an anomaly should cease to exist. It is no real

kindness to the villagers themselves, and I am afraid that advantage is taken by the villagers adjoining the forests to take the cattle of outsiders in as their own, to obtain the benefit of the reduced grazing fees.

Some experiments were made at the suggestion of His Honor the Lieutenant-Governor and Chief Commissioner in sending out grass to Lucknow, but the grass was not appreciated. When the railway comes nearer, green grass may be cut and sent to large places like Lucknow and Sitapur at the time it is principally wanted, and in time green grass may be stacked in silos, but at present distance is against us, and we have more than sufficient work on our hands in the working season.

25. *Fencing.*—Practically there is no fencing in the Oudh forests. Our principal difficulty is in Bahraich and Gonda. The legitimate grazing grounds are marked off by well-defined natural boundaries or by cut roads. Mr. Dansey has in Bahraich put up a large number of notice-boards, but grazing in prohibited areas will be with difficulty prevented as long as the village herds are allowed to roam the forest without proper herdsmen in charge. In Bahraich and Gonda a large staff of men has to be kept up to prevent grazing in prohibited areas, but in most of the other forests the villagers and herdsmen keep to their proper places.

26. *Good results of protecting grass.*—One of the most satisfactory results of keeping out cattle from some of the forests has been the great improvement of the grass for thatching purposes—I allude specially to small and isolated forests, as in Gonda and Gorakhpur. The grass, not having been trampled upon or grazed down, has come up dense and long in the low grass lands, generally between the sál forests and the drainage lines. The grass was sold standing by areas to purchasers, who cut the grass close to the ground and took as much care of it (when it was their own) as if it had been meadow hay. In many places the grass fetched as much as Rs. 6 an acre not from isolated patches, but as a lot (500 acres), as in the Ramgarh compartment of Nawabganj, Gonda, and a similar success was obtained in Gorakhpur. The same results were obtained in the Akonah forests of the Mahárája of Kapurthala when they were submitted to my advice: grass that had before fetched some Rs. 100 a year now brings Rs. 1,000. Grass grown densely like this, though dearer at first sight, is actually cheaper in the end: the grass is better, lasts longer, and the labour of cutting it is cheaper. The grass being cut round the forests is the greatest protection to them from fires from without, and it was quite a pleasure to see how the grass was cut and utilized, holding out a prospect that in time, as our hands are strengthened and the prejudices of the people are gradually removed, the wasteful practice of burning grass in forests will be abandoned.

(5) Natural Reproduction.

27. *Natural reproduction.*—This on the whole is doing very well. In the area protected from fire and grazing for several years the young tree growth has topped the grass and killed it down, rendering grass fires either impossible, or of little direct injury to the trees, though the soil suffers. The year was good for sál seed and the damp weather made germination a success. Mr. Dansey spent the rainy season at Bankatwa, near Bhinga, and studied the growth of sál seedlings in the Bhinga forest; and I visited that forest in October, before the dry weather withered up most of the seedlings: there were more seedlings than I had ever seen before, but the soil is not yet fit for their permanently remaining. The seedlings must get their long slender tap-roots down to permanent moisture before the next hot weather, and to grow into good trees they must make good growth the first year, or they are liable to die down till they cannot attain to anything higher than scrub. It will, I believe, take some years before the now forming humus gets washed down sufficiently to be a permanent source of food to the young trees; it was noticed that where seed had fallen on a layer of decayed leaves, the seedlings threw out only a mass of surface root fibres which of course would dry up with the first summer heat. Khair seedlings have been noticed coming up where the grass has been allowed to remain, or where the

system of cutting the grass has been adopted and fires stopped. It is hoped that when grass cutting is adopted in some of the most open sál forests while dense grass in them that sál reproduction will be more rapid ; but I myself am of opinion that the sál seeds that do reach the ground in dense grass will do better than in cut grass, as they want protection against frosts.

(C) Artificial Reproduction.

28. *Artificial reproduction.*—The plantations were at the end of the last year 1,422 acres, to which may be added 500 acres, making a total of 1,922 acres.

The closely planted plantations of Shaikh Mohi-ud-din and Messrs. Amery and Grant in Gorakhpur require constant thinnings, for which thinnings there is no good market. In Kheri the few sissu trees planted on the low ground are doing well and are topping the grass; the growth on mounds in Bhira is fair. The only real good plantation of sissu that we have is at Sakhwi, Gorakhpur. Here there is some wonderful growth : the trees were sown at Ramgarh in April, 1881, carted to Sakhwi in the rains of the same year, and in some places planted 15 feet apart, in others 30 feet apart, to cover the ground. I measured two trees before they were five years old from seed and 4½ years transplanted: one was 40 feet high with a girth of 2½ feet at 4 feet from the ground, and the other was about 42½ feet high and 2 feet girth at the same height ; the average of a few acres was about 30½ feet high and 1′6″ girth at 4 feet from the ground, and at 15 feet apart they already want thinning. The secret of this success was planting with perfect roots on good soil slightly raised above the floods (it was deserted village ground), without high grass on it in the rains, and not too close together.

It must be remembered that all our sissu plantations are on grass lands, nature having planted the tree forests on the most appropriate places for them. To the casual observer who visits the forests in the cold and hot weather it would seem very easy to plant up the grass lands ; but on close examination it will be found that almost all the grass lands are low lying, and for weeks under water : it may be only an inch or two, but it is sufficient to prevent the natural growth of trees on them. The dense growth of grass on higher grounds prevents the seed of forest trees getting enough light for germinating and future growth; but I was for some time puzzled to account for the death of large numbers of sissu trees in Mandhauba, Gorakhpur, where the grass was cleared away from the roots of young transplants ; but on further examination I found that in making the holes for the transplants some of the earth remained in the grass roots round about, and though the earth round the transplants may be level with the natural soil for some time after planting, owing to its less density and greater bulk when dug up, it sinks afterwards; and where the grass is liable to be swamped every transplant's pit-hole in a swamp after the rains have flowed off the grass land, the earth is clogged up and the seedlings either damp off and die, or are damaged so much that it interferes with their future growth. I have directed Mr. Campbell in trees still living and in transplanting to see that pit-holes are filled up with soil higher than the level of the surrounding land ; this is easily done by scraping the earth off all round the plant and piling up near the plant itself. I attribute most of our former failures to this circumstance of the pits sinking and the roots getting swamped with stagnant water. Mr. Dansey planted out a number of sál seedlings in several pits near the Ponsonbyganj rest-house : they are doing fairly, but it is too soon yet to judge of results; the seedlings of January, 1884, were doing fairly well too. Mr. Dansey found that seed that had had the end of the radicle damaged by fall or exposure to dryness did not make healthy plants. We must imitate nature, which sheds its seed in millions, whilst only hundreds come up and tens arrive at maturity. We must select our seed-bearing trees, our seed, and even reselect that, sow it in the best soil, care for it in the nursery, and then transplant it with *perfect roots* in good soil and in space that it will not be confined in, and then care for it till it has fairly established itself in the soil, taking care that as in the hot dry weather the roots are kept moist, so in the rainy season it must be seen that the roots were not swamped with stagnant water. It is a point

of great importance to learn from experiment the best manner of artificially reproducing sál, as much time will be saved in sowing or transplanting in lines, thus gaining time in soil where natural reproduction has not taken place rapidly on account of the poverty of the soil or other causes. Whilst keeping the sál area in the highest state of reproduction, we can keep other parts of the forests open for grazing or thatching grass or other valuable forest products.

(7) Yearly Thinnings, Removal of Inferior Species, Cutting of Climbers, &c.

29. *Thinnings.*—We have hardly progressed enough to have early thinnings, but in Gorakhpur this will have to be done next year in the compartments that were thinned out first; here it will pay removing the scrub and inferior trees that are in the way of better growth, as the receipts from the produce as firewood will more than cover the cost of the operation. In other Divisions the removal of the inferior species is done by the privileged villagers ; but, especially in Gonda, a rule is now necessary (to be notified by the Local Government) by which the villagers should be forced to cut the inferior species flush with the ground, in order to get a straight growth for their own use in future days. At present they cut breast high to save themselves the trouble of bending their backs ; they even climb up the trees to cut a small straight pole, thus leaving crooked trunks on the ground that will never produce the straight growth that a stool cut near the ground will. In Gorakhpur the cutting out of *bánda* (Loranthus), a honeysuckle-like parasite which grows on the stems or tops of young sál trees, eventually killing them, is a work of necessity, but will not be of much good as long as the private proprietors allow the *bánda* to grow in the adjoining forests, as the birds eating the fruit in those forests will deposit the seed on the sál trees of the Government forests. A great deal of climber-cutting, it is true, is required in Bhira, which should first be taken in hand in the closed forests. The Divisional Officer, who himself was the Officiating Conservator when the last report was written, certainly pointed this out. But the Bhira forests do not yet pay, and there have been more important works to be taken in hand ; but now these are done, the climber-cutting should be carried on vigorously, the area to be protected from fire having been marked off permanently (hitherto it was not of much use cutting the climbers on land that was burnt over every year) and in my opinion this area should be particularly attended to ; also the area where the fuel operations will first take place, probably near Gola Gokarnath, before a larger area is taken in hand either for fire-conservancy or climber-cutting.

Climbers have been cut as below :—

Division.	Area in acres.	Cost.
Pilibhít	272	11
Bhira	...	...
Khori	..	...
Bahráich	10,240	400
Gonda	.	...
Gorakhpur		8
	10,512	419

(8) Experiments on Exotic Trees.

30. *Sál and assaina bark extract.*—Mr. Rebsch in Gonda made 50 maunds of sál bark extract. The process was exactly the same as in making catechu, only using the bark, which is as yet a waste product, instead of cutting down trees, as is done for catechu. The cost of the extract was of course more than if the men had worked for themselves. Some of the sál extract was sent to the Government tannery for a practical experiment, some was also sent to the London Exhibition, and I sent a small quantity to Messrs. Rider and Co., publishers of the *Timber Trade Journal*, London, for an analysis and to obtain an idea of what it would fetch. The analysis is given

below and the price it would fetch is given at £12 to 15 per ton, which at the rate of exchange of £ 1 = Rs. 13½ is about Rs. 6 to Rs. 7½ a maund in London :—

Specific gravity	...	...	...	...	= 1·333 = 36 degrees.
Baume moisture	...	...	...	...	= 7·33 per %.
Reduced to ashes	...	...	...	...	= 0·302 ,,
Tannin	...	...	...	...	= 3·229 ,,
New tannin, other acids		...	...	...	= 3·93 ,,

The extract was made in the spring before the hot weather came on, and the extract was of the consistency of tar ; but when the weather got hotter and drier we arranged to get some extract in cakes of the consistency of pitch ; and this is the state that we should try to get it, making it in the spring and drying it in the hot weather, as the stuff of tar consistency requires to be packed in gharas, whereas the stuff of pitch consistency is lighter and can be packed in old gunny bags. With the large quantities of sál and assaina coppice which we shall shortly have to deal with, the finding a profitable market for our bark is a matter of great importance. From what I can gether from reading, a large quantity of hemlock bark extract is used in tanning in America and England, and is imported into England. It is made from the bark of the hemlock pine ; the dark colour of the extract is rather against it, the English tanners preferring the light colour obtained from oak bark, and the dark colour is rather against the sál extract, and will be, I am afraid, more so against that of the assaina extract.

We have so much to do with our own good trees, sál and sissu, that we have not done much in the way of exotic trees. I have got some mahogany seedlings from the Saháranpur gardens and planted them, for shade, in the Bahramghát yard, where they are doing well. Great care was taken in the transplanting to avoid damage to the roots and also to give the roots full play in good light rich soil when transplanted, and the care has been rewarded with successful and healthy growth.

31. *District arboriculture.*—Mr. Campbell in Gorakhpur carried on arboricultural work for the Collector, but as money is not given in amounts sufficient to carry on the work properly, I think it should be abandoned. This work will be dealt with in the Agricultural Department.

(9) Communications and Buildings.

32. *Roads.*—During the year 23¾ miles of new roadway were completed as below :—

						Miles.	fur.
Pilibhít	...	...	...	...	...	8	7
Bhira	...	...	...	...	...	1	4
Bahraich	...	...	...	...	...	11	6½
Gorakhpur	...	...	...	...	...	1	4
				Total	...	23	5½

making a total of 981 miles and ½ furlong of last year plus 23 miles 5½ furlongs of new roads=1,004 miles 6 furlongs. Of this should be deducted 23 miles 2 furlongs of boundary lines in Bahraich and Gonda added last year, but excluded this year, as the boundary lines are not made for traffic and hardly come under the designation of roads. An abstract statement of existing roads and lines is given in Appendix 3 of this report. It would be as well in next year's report to distinctly separate the different lines into three different classes, *viz.*, lines that are made as boundaries only ; (2) the lines that are principally made for fire conservancy ; and (3) lines that are chiefly traffic lines. The continuous rains in the cold weather damaged the traffic lines considerably, but many were kept in fair repair, as also the small bridges on them : a large bridge over the Joraha was repaired, and the wooden bridge over the Soheli river at Dudua was kept up as customary, and the bridge-of-boats over the Sárda at Srinagar was maintained as usual. Owing to the good crops in the open country there was not the same amount of grain traffic from Nepal as usual, and the bridge hardly paid its expenses ; but no account is taken of the thousands of sleepers which were

crossed over it. But now that we are about to work the forests more intensely, it will be found necessary to keep down carting expenses and to start tramways from the forests to the nearest railway or to the nearest navigable river. Hitherto the principal carting carried on has been that of logs and sleepers, which could bear the heavy expense of cart carriage. As to logs, the carters have to find them over an area of about 2,500 acres in which the fellings take place, and sleepers have to be collected from the places they are sawn and brought to temporary depôts in the first instance; but now that our carting will be of less valuable stuff, viz., poles and fuel, and the cutting of such stuff will be in smaller areas worked more intensely, it will pay to have permanent lines from the chief points of export to the rail or river, moving the rail end in the forest to the site of the operations. The success of our fuel and miscellaneous timber operations will principally depend on the cheapness of carriage. The lines that should, I think, be kept in view are from Mahofe to Pilibhit, some 12 miles; Dudua to Mailani, about 23 miles; Bilrain to the meeting of the Girwa and Korialla, 8 miles; from Nishangara to Sujauli, 4 miles. For the next 10 or 20 years there will be a heavy traffic over these lines, and in these places the line will hardly want removing for fully that time. Afterwards a line will probably be required for the northern forests in Gorakhpur to Pharainda on the new Uska Branch of the Bengal and North-West Railway. I have arranged with Mr. Campbell for a few more lines to be cut, which will bring the present system of compartment lines into communication with a road that runs to Pharainda.

33. *Buildings.*—The expenditure under this head in the past year was for buildings that were in progress, but not completed. During the present year buildings were completed as below :—

Description.	Kheri.	Bahraich.	Gorakhpur.	Total.
1st class double-storied rest-houses	1	2	...	3
Ditto single-storied ditto	...	...	1	1
Total ...	1	2	1	4

1st class double-storied house at Salukapur, Kheri, completed, and two at Bankatwa and Gulra in Bahraich were completed. One 1st class single-storied rest-house was made at Ramgarh, Gorakhpur; besides these out-houses in the Bahraich, and Kheri Divisions were also made. Most of the buildings have cook-houses and out-houses for servants and subordinates attached to them. An abstract statement of rest-houses in the Oudh Circle will be found in Appendix IV of this report. Owing to want of funds the Changa Nala rest-house in Kheri was not completed, but arrangements have been made for its completion in 1886-87. One at Nichlol is in course of construction, two or three are wanted on the new line from Pharainda to the northern forests in Gorakhpur, and some are required in Gonda and sites have been fixed for them.

34. *Wells.*—One new well has been completed during the year, which added to the 112 reported last year make up the total to 113 wells; besides these there are four wells in Gorakhpur, four in Kheri, and one in Pilibhit, total nine wells in course of construction. The health of the establishment and the workmen of purchasers and travellers greatly depend on these.

The expenditure on the above works is as below :—

	Roads and bridges.	Buildings.	Wells and other works.	Total.
Oudh Circle ...	11,843	13,900	1,131	26,984

35. *Rivers.*—The Koriala has not come nearer the Shitaba rest-house; the water is leaving the western or Koriala branch, and almost all the water is flowing in the Girwa or eastern branch, so much so that in former years the Koriala above Shitaba

ghát was the great river for rafting. This year the water was so low that we had to transfer our sleeper rafting operations from Ramnagar to the point where the Girwa and Koriala meet. This caused extra expense, but had to be done, as in November the boats from Ramnagar used to stick on the sand-banks between Ramnagar and the junction, and the boats carried only half loads in the shallow water. The Soheli was cleared as usual and the river was used not only for the rafting of logs to Shitaba and on to Bahramghát, but of some eighty thousand sleepers for the Chota Sarju Depôt on the Koriala (from which 72,000 sleepers were carted to Nánpara and Bahraich) for Lakarmandi (Fyzabad) and Bahramghát.

CHAPTER IV.

YIELD AND WORKING.

36. *Yield of the Circle.*—The detailed yield is given in Forms Nos. 54 and 55 of this Report.

(1) Departmental Operations.

37. *Selection fellings of regular working plan and for sleeper and scantling operations—Circle.*—The regular selection fellings (sanctioned at 2,500 mature sál trees) took place in the Kheri Division as below :—

Two thousand five hundred and seventy-six sál trees were felled in compartments 50 (north of Joraha Nála), 52, 55, 56, 64 and 65 ; 118 assaina trees were felled in compartments 56, 64 and 65 : these were felled for logs. Besides these 10,611 crooked and unsound sál trees were felled for sleeper and scantling operations in compartments 48, portions of 49, 50, 54, 55, 61, and 62, and very slightly here and there in the other portions of the Kusambha closed blocks, where the trees could be spared ; 9,154 assaina trees for sleepers were felled in compartments 22, 23, 24, 29, 34, 35, and 46 of the Kheri trans-Sárda Division ; 15,695 sál trees, ruled and crooked, were felled in the Ganeshwapur, Maukapur, Daibhar, and Mandhalia ranges of Gorakhpur, making the grand totals of selection fellings, both of sál and of assaina, to 38,154 trees, as shown in Form No. 53.

38. *Selection fellings and fellings for sleeper and other purposes—Divisional.*—(*a*) Kheri : regular selection fellings were 2,576 sál trees, yielding 2,638 logs and 1,797 pieces containing 171,615 cubic feet ; (*b*) Kheri : sleeper selection fellings, 10,611 sál and 9,154 and 118 assaina trees were felled, which were nearly all converted into sleepers. (*c*) Gorakhpur, 15,695 trees were felled for sleepers ; all these were converted into sleepers.

39. *Sleeper operations* (*a.*)—Kheri : 138,334 sál and 158,586 assaina metre-gauge sleepers were obtained from the logs above mentioned ; (*b*) Gorakhpur : 56,907 sál sleepers were obtained from the logs above mentioned : these were very much smaller than those in Kheri, and such as would never have made large trees, having been tapped for resin before the forests were made over to the Department ; (*c*) at Bahramghát 14,864 sleepers were cut from material sent from Kheri. Besides these, 90 signal-posts and 368 broad-gauge sleepers for railway crossings and points were also obtained from the mature trees felled in the Kheri Division.

The sleepers were supplied to the Bengal and North-West Railway, Provincial State Railways, North-Western Provinces and Oudh, Rajputana-Malwa Railway, Cawnpore-Kálpi, and Cawnpore-Achnera Railways.

40. *Review of sleeper operations from the commencement up to date.*—The sleeper operations were started on a small scale in 1881-82, when only, as an experiment, 6,265 sleepers were cut in Kheri ; but the operations were vigorously carried on in subsequent years as follows :—

In 1881-82	...	6,265
,, 1882-83	...	86,246
,, 1883-84	...	416,616
,, 1884-85	...	114,755
,, 1885-86	...	323,288
Total	...	947,170 sleepers were cut in Kheri up to 31st March, 1886.
1882 to 1886	...	67,157 ... Gorakhpur.
,,	...	41,229 ... Bahraich.
,,	...	74,596 ... Bahramghát.
Total	...	1,180,152 sleepers cut during the last five years.

The details of supplies are as below :—

Rohilkhand and Kumaun Railway ...	55,141
Bengal and North-West Railway ...	217,392
Bareilly and Pilibhít Railway ...	74,184
Cawnpore-Farukhabad Railway ...	54,272
Cawnpore-Achnera Railway ...	104,273
Muttrá-Háthras Railway ...	7 311
Rájputana Railway ...	12,674
Cawnpore-Kalpi Railway ...	6,311
Lucknow-Sitapur Railway ...	108,883
Total ...	652,961
Balance in hand ...	*477,191
GRAND TOTAL ...	1,130,152

41. *Thinnings.*—(*a*) Pilibhít : a commencement was made in 1883-84 by Mr. Ponsonby and the work has been carried on in 1885-86 by Lieutenant-Colonel Campbell. The results show an outturn of more than 418 maunds, or 1,255 cubic feet, per acre. During 1884-85 fuel was cut in lines (strip system) 16½ feet broad and 49½ feet being left : this season the strips have been cut 33 feet broad, leaving 33 feet ; (*b*) Gonda : experimental thinnings were started in the Ramgarh : 6 plots of one acre each were selected in different kinds of forests and thinned : the results were 567 poles and 993 maunds of fuel ; (*c*) Gorakhpur : the usual departmental thinnings were carried out ; (*d*) Bahraich : improvement fellings were made in Bahraich and the result is as below :—

Acres cut over 510—

	Cubic feet.
Total yield in logs	160,238
Ditto in fuel	757,160

giving 314 cubic feet an acre in logs and 1,484 cubic feet of fuel, but for the latter only large stuff has been taken. As the work progresses it will pay to remove smaller stuff ; meanwhile the smaller stuff now left will tend to enrich the soil.

The following table shows the state of the forests before and after thinning :—

A.—Previous (per acre).

(*a*)	Mature trees of sál, capable of yielding sound but indifferent logs	1
(*b*)	Unsound ditto ditto	2
(*c*)	Miscellaneous mature trees	2
(*d*)	Miscellaneous poles	25
(*e*)	Sál poles (2½′—3½′ middle girth)	6
(*f*)	Ditto (1½′—2½′ ditto)	64
(*g*)	Ditto (1′—1½′ ditto)	50
	Total ...	150

*Of this balance nearly half the quantity is in course of delivery and some 40,655 at Bahramghát Depôt.

B.— Subsequent (per acre).

(*a*)	...	...	0	
(*b*)	...	...	0	Girdled.
(*c*)	...	...	0	
(*d*)	...	...	0	Partially girdled, partially cut up into firewood.
(*e*)	...	...	2	
(*f*)	...	...	16	
(*g*)	...	...	12	
	Total	...	30	

Practically all the old sál and all the miscellaneous stuff has been cut out and the best ¼th of the young sál been left standing.

42. *Outturn of timber, firewood, and other minor produce.*—Outturn of timber, firewood, and other minor produce is given in Forms Nos. 54 and 55, an abstract of which is given below:—

Description of material.	Outturn of timber in cubic feet.							
	Selection fellings.	Clearances.	Thinnings.	Total.	Removed by			
					Government agency.	Purchasers.	Free grants.	Right-holders.
Timber ...	673,996	674,004	54,884	1,403,884	1,107,894	148,006	127,085	20,000
Saplings ...	...	31,485	900	32,385	...	32,385	...	
Poles, &c. ...	8,440	2,421,947	43,094	2,473,481	9,234	196,715	2,207,532	
Firewood and charcoal.	58,700	1,548,663	648,807	2,254,230	474,110	1,294,712	485,408	

Description of produce	Produce removed or utilized by									
	Government agency.		Purchasers.		Free grants.		Right-holders.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		Rs.		Rs.		Rs.				Rs.
Minor produce ...	...	2,796	...	49,316	...	10,845	...	...	...	62,957
Grazing ...	...	...	...	41,319	...	943	...	...	...	42,252
Total ...	...	2,796	...	90,625	...	11,788	...	...	...	105,209

43. *Bahramghát Depôt.*—The following table gives the comparative results of receipts and execution of indents :—

Year.	Balance at commencement of the year.	Received during the year.	Total.	Executed during the year.	Cancelled.	Total.	Balance.
1884-85	7,455	62,827	70,282	30,214	12,229	42,443	27,839
1885-86	27,839	39,229	67,068	42,340	11,445	53,685	13,383

Very few indents were received from the Public Works Department during the year, but the chief customers were the Provincial State Railways, North-Western Provinces and Oudh, the Jail and Canal Departments. Rejected timber and scantlings and offcuts were sold at the usual periodical auction sales, which brought an average price of from 6 to 10 annas a cubic foot.

44. *Abstract of stock.*—The abstract of Form No. 57 given below shows the value of stock at commencement and close of the year :—

Description.	On hand at commencement of the year.		On hand at close of the year.		Difference in value.	
	Number or quantity.	Value.	Number or quantity.	Value.	In favour of the year.	Against the year.
		Rs.		Rs.	Rs.	Rs.
Timber ... ... C. ft.	906,061	5,35,298	1,702,271	6,55,445	...	...
Firewood ... ... Mds.	7,150	804	1,414	63	...	...
Live stock ... ... No.	37	15,538	30	14,967	...	...
Dead stock, including buildings, furniture, canoes and boats.	38,040	2,16,864	67,144	2,15,470	...	...
Total ...	...	7,68,594	...	8,85,945	1,17,351	...

45. *Explanation of stock.*—The value of timber stock has been increased by Rs. 1,20,147. Some of the sleepers are in course of delivery to the Lucknow-Sitapur Railway, but against this must be put our liabilities. As desired in paragraph 246 of the Forest Department Code, 3rd edition, I have made sufficient allowance for deterioration in the value of stock, so that the figures entered at the close of the year may represent its value as correctly as possible: hence there is a decrease in the value of live and dead stock at the close of the year.

46. *Removal of produce by purchasers—Circle.*—The removal of produce of all kinds is given in the new forms Nos. 54 and 55 of this report, an abstract of which is given below for this and the past year:—

Description.	1884-85.		1885-86.	
	Quantity.	Value.	Quantity.	Value.
		Rs.		Rs.
Timber ... ... c. ft	66 700	22 233	1,48,900	60,502
Poles and saplings ... ... No.	7,17,399	89,675	2,29,100	24,951
Bamboos ... ... Scores	5	...	...	...
Firewood ... ... Mds	2,53,772	14,027	12,94,712	24,996
Charcoal ... ... "	23,328	3,425		
Minor produce	...	42,928	...	42,131
Grazing dues	....	38,226	..	41 300
Draft timber	671	3,441	5,21,418	3,994
Total ...	...	2,13,955	...	1,97,043

There was less dry timber to be removed from the Kheri forests and less thinnings in Gorakhpur, &c.: hence the decrease.

47. *Free grants of forest produce.*—The detail of free grants of forest produce is given in Forms Nos. 54 and 55, and an abstract of the same is given below:—

	Quantity.	Value.
		Rs.
Pilibhit ... ... C. ft.	20,000	10,000
Bhira ... ... "	61,027	720
Kheri ... ... No. 6462	2,70,290	20,082
Bahraich ... ... C. ft.	2,83,824	29,516
Gonda ... ... Mds.	40,658	4,955
Total ...	...	71,873
Free grants to District Officers	...	713
Grand Total ...	...	72,586

48. *Produce removed by right-holders and under privileges.*—A detail of produce removed by right-holders is also given in Forms Nos. 54 and 55; this appears in Appendix V. as 20,000 cubic feet, value Rs. 10,000; the rest of the produce is given as a concession.

49. With the exception of the Pilibhit Division, there are no rights in any of the Divisions of the Oudh Circle.

50. There are no protected or district forests in the Oudh Circle.

51. *Summary of the produce removed from the forests.*—The summary of the produce removed from the forests will be found in Forms Nos. 54 and 55.

52. *Catechu.*—The amount realized from the manufacture of catechu during the year under review is Rs. 18,628, against Rs. 25,482 realized in 1884-85. The fall of revenue from cutch is attributed to there being no pressing demand for cutch during the year; moreover, cutch manufacturers do not like certain restrictions put on them for cutting trees flush with the ground, so as to obtain good coppice-shoots.

This year, too, there were splendid rabi crops: should the supply of catechu cease, or at any rate run short, we can employ the labour of the Khairahas in making bark extract which is made from waste product.

53. *Imports and exports of forest produce.*—Thousands of sál logs, &c., are imported into the province from Nepal, and thatching-grass has been exported to Nepal from the northern Gorakhpur forests.

CHAPTER V.

FINANCIAL RESULTS.

54. The financial results of the year under review as compared with those of last year are given below :—

Receipts.		Expenditure.		Surplus.	
1884-85.	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.
Rs. 6,37,021 + 1,40,000 = 7,77,021	Rs. 6,81,712	Rs. 5,50,758	Rs. 5,03,198	Rs. 86,263 + 1,40,000 = 2,26,263	Rs. 1,78,514

55. *Reasons of the decrease.*—Actually the receipts are higher than those of last year; but owing to Rs 1,40,000 having been credited to the accounts of the year 1884-85, there is a decrease of receipts as compared with last year. On the other hand, had the Comptroller-General allowed the marginal items entered by the Railway Department to be credited in March's accounts to the Forest Department as given by the Railway Department, the surplus would have been Rs. 2,37,568, or Rs. 11,305 more than last year's surplus. One of our principal items of revenue was from sleepers sold to the Bengal and North-West Railway.

	Rs	a.	p.
Due from Cawnpore-Kalpi Railway ...	37,128	7	6
Ditto Cawnpore-Achnera Railway ...	12,155	2	4
Ditto Rájputana State Railway ...	9,770	0	0
	59,053	9	10
Surplus as shown above,	1,78,514	0	0
Total ...	2,37,567	9	10

56. The receipts under the different Budget heads are given as below :—

Year.	I.	II.	III.	IV.	V.	Total.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1884-85 ...	4,72,654 + 1,40,000	1,52,723	2,234	...	8,410	37,021 + 1,40,000 = 1,77,021	7,77,021
1885-86 ...	5,11,216	1,58,306	2,994	...	8,196	6,81,712	6,81,712
	+1,01,438	+5,583	+760	...	−214	—	−95,309

The decrease under I is owing to the outstandings on account of sleepers not having been adjusted in the year

57 Divisional receipts and expenditure are given below :—

Division	Receipts		Increase or decrease during the year	Expenditure		Increase or decrease during the year
	1884-85	1885-86		1884-85	1885-86	
	Rs	Rs	Rs	Rs	Rs	Rs.
Direction	10		− 10	23 616	23 563	− 53
Pilibhit	10 005	18 992	+8,487	25,839	26 506	+ 667
Bhira	9,394	9 554	+ 172	9 068	7 340	− 1 728
Kheri a	2 50 753	2,08 807	−1,02 146	2,56 004	2 91 726	− 64 938
Kheri b	1,40 000					
Bahramghát	1 51 1 17	1,45 299	− 5 839	37 474	38 643	+ 1 169
Bahraich	1,08 024	51 916	−51 107	37 937	45 358	+ 7 421
Gonda	27 551	27 054	+ 503	17,409	15 050	− 2 359
Gorakhpur	85 159	1 29 089	+44 530	46,740	59,010	+ 12,261
Total	7 77,021	6,81 712	−95,300	5,50,758	5,03,198	−47,560

58 *Explanation of difference.* (*a*) In Direction the decrease in expenditure is due to Conservator's reversion to the 2nd grade (*b*) In Pilibhit the increase in revenue is owing to the sale of fuel obtained from thinnings, and the increase in expenditure is owing to more work done under timber and fuel under heads I and II., though, on the other hand, there is a decrease under all other budget heads. The whole sum of Rs. 18,550 under A 1 *b*. for fuel operations could not be spent advantageously, as there were not large forests to work in. The sum of Rs 3,000 proposed for the demarcation of Puranpur pargana could not be spent owing to want of supervision, and the work was started very late in the season. (*c*) Bhira: the increased revenue is chiefly due to more *bail* grass having been collected and sold this year, and the decrease in expenditure is due to the fuel operations not being carried on as contemplated, and less work for the fire conservancy, roads and buildings was done. (*d*) Kheri, decrease in revenue is mainly due to Rs 1,40,000 on account of sleepers credited last year, and Rs 59,539, outstandings on account of sleepers, not having been allowed to be credited in the year under review, and the decrease in expenditure is principally owing to many of the sleepers sawn in 1885-86 not being able to be carted to their destinations on account of the heavy winter rains, which delayed work till after the close of the financial year. Last year, too, the sawyers' accounts were settled up to date in 1884-85 as well as for 1885-86. (*e*) Bahramghát: the decrease in revenue is to the outstandings not having been realized during the year, and the increase in expenditure is owing to the sawings of sleepers to expedite the delivery of sleepers to the Bengal and North-West Railway. (*f*) In Bahraich the decrease in revenue is owing to there being no sleepers sold during the year: the large revenue for the past year was mainly due to the sale of sleepers; and the increase in expenditure is chiefly due to the institution of improvement fellings in the Motipur sub-division, which involved an outlay of about Rs 9,000 in excess of the expenditure of the previous year. (*g*) In Gonda the increase in revenue is under heads II *c*—Minor produce, and III—Confiscated and drift timber, and the decrease in expenditure is owing to no sawing work being taken in hand, as was done last year, for the supply of scantlings for the Bengal and North-West Railway. (*h*) Gorakhpur the increase in revenue is principally due to the sale of sleepers to the Bengal and North-West Railway, and the increased expenditure is also due to the supply of sleepers to the same railway.

59. *Circle—Expenditure A. under different heads.*—The expenditure under A., Conservancy and Works, for this and past year is as below :—

Year.	I. Timber and other produce removed from forests by Government agency.	II. Timber and other produce removed from forests by consumers or purchasers.	III. Confiscated, drift and waif wood.	IV. Revenue of forests not managed by Government agency.	V. Rent of leased forests.	VI. Live and dead stock.	VII. Communications and buildings.	VIII. Demarcation improvement and extension of forests.	IX Miscellaneous.	Total.
1884-85 ...	3,40,895	10,856	116	...	...	7,172	40,895	30,923	447	4,44,206
1885-86 ...	3,23,995	11,756	464	...	...	7,958	26,985	25,046	2,329	3,98,533
	—25,900	+900	+348	...	...	786	—13,910	5,777	+1,882	—45,671

Cause of difference.—AI., decrease: few liabilities of sawing contractors for previous years were paid this year, and all the sleepers cut during the year could not be carted to their destination owing to winter rains, &c.; AII., increase owing to extra supervision on forest produce; III., extra watchers on drift owing to departmental management; VI., more expenditure on feed and keep of cattle and purchase of stock; VII., less work done on roads, buildings, and wells for want of supervision, it being taken up on other works as thinnings, &c.; VIII., less expenditure owing to demarcation work not having been done in Pilibhit, to savings under fire conservancy establishment owing to the favourable season, and the work of creeper-cutting, &c., not having been taken in hand owing to the officer's time being fully occupied with other works; IX, increase owing to more work being done towards the clearing of camping-grounds in the Bahraich Division.

60. *Circle—Expenditure B. for this and past year :—*

Year.	I. Salaries.	II. Travelling allowances.	III. Contingencies.	Total.
	Rs.	Rs.	Rs.	Rs
1884-85	85 982	16,006	4,566	1,06,554
1885-86	85,930	13,826	4,908	1,04,664
	—52	—2,240	+402	—1 890

Causes of difference.—Last year there were more officers in camp for a longer time on sleeper operations than during this year: hence less expenditure incurred on travelling allowances.

61. *Cash profits of the year.*—The cash profits of the year were as below :—

	Rs.
Receipts	6,81,712
Expenditure	5,03,198
Cash surplus	1,78,514

62. *Circle—Account of receipts under the three great heads of expenditure.*—A comparative statement of the financial results under the three main heads of expenditure for this and the past year is given below :—

Particulars.	1884-85.	1885-86.
I.	Rs,	Rs.
Receipts from timber and other produce removed from the forests by Government agency	1,40,000 4,73,071	5,11,060
Deduct expenditure on account of above with share of establishment ...	3,76,647	3,30,036
Leaving a profit on timber operations	96,426 1,40,000	1,81,624

Particulars.	1884-85.	1885-86
II.	Rs	Rs.
Other receipts	1,68,950	1,70,053
The cost of revenue collection with share of establishment comes to ...	77,127	80,170
Leaving a surplus of	86 823	89,883
Add profits under main head I.	2,36,426	1,81,624
Total ...	3,23,247	2,71,507
From above deduct cost of works of conservancy and works with share of establishment	96,984	92,991
Leaving a cash surplus of	2,26,263	1,78,516

The outstandings of revenue, Rs. 59,504 due from State Railways and Rs. 46,403 due from Bengal and North-West Railway and other public Departments on account of sleepers and timber supplied from Bahramghát—total Rs. 1,05,457—will come in 1886-87.

63. *Profits of the year with assets.*—The following table shows the estimated profits of the year's operations, taking assets into consideration:—

	Rs.
Receipts of the Department	6,81,712
Expenditure	5,03,198
Surplus ...	1,78,514
Value of timber at commencement of the year	6,00,194
Ditto at close of the year	6,90,498
In favour of the year	90,304
Value of live-and dead stock at commencement of the year	1,68,400
Ditto at close of the year	1,95,447
Difference in favour of the year	27,047
Total surplus ...	2,95,865
Deduct outstandings at commencement of the year	22,135
Balance	2,73,730
Add outstandings of the year	61,052
Total ...	3,34,782
	59,059
Add outstandings on account of sleepers, as shown in para. 62	3,03,841
Deduct liabilities	97,404
GRAND TOTAL ...	2,96,437

64. *Value of free produce.*—In Forms Nos. 54 and 55 the detail of free grants of timber and minor forest produce to the privileged villagers in Kheri, Bhira, Bahraich, and Gonda and to the right-holders in Pilibhit, as also the free grants of timber to District Officers of Gonda and Gorakhpur for district road feeders and roadside bungalows, is given. With these figures, together with the reduced rates of grazing dues to privileged villagers and free grazing to Tharus and others, I estimate about 1½ lacs of rupees worth of produce is given away during the year.

65. *Outstandings.*—Outstandings on account of revenue at the close of the year under review were Rs. 61,052; of this Rs. 46,403 from Bengal and North-West Railway and other public Departments, and Rs. 14,649 from private purchasers, most of which is recoverable. Some of this is on account of grazing dues, for realisation of which the assistance of the District Officers has been solicited; and the outstandings of Rs 59,059 is for transaction proposed by the Railway Department to be adjusted in 1885-86, but not yet admitted by the Comptroller-General (Forests).

66. *Account of contractors.*—The outstandings from contractors and disbursers are Rs. 1,57,013. Most of this has been cleared during the year 1886-87 by work done, though there are some Rs. 23,603 outstandings against carting contractors, whose cattle were killed by sickness breaking out amongst them, and principally caused by exposure during the last winter rains and in the latter part of the financial year. Some of the carting contractors who had gone to Nepal will have come back by this time, and it is hoped that most of the outstandings will be realized in 1886-87, but I am afraid there will be in some cases irrecoverable outstandings which will have to be written off to profit and loss. But at the same time I would remark that, even if there is a loss of some 5 per cent on transactions of such a heavy nature, it is cheaper in the end to pay the small loss than to permanently raise our rates, or give the carting to large contractors who would have to allow for similar losses and protect themselves well Again, it is safer to work with a number of petty contractors than with one or two large ones who might fail at the last moment. It must be remembered that we have in the last five years carted about 10,00,000 of sleepers: so that if we even lose Rs. 25,000, it would only be $\frac{1}{40}$th of a rupee or 5 pies a sleeper; besides these we cart over 3,000 logs and pieces annually.

CHAPTER VI.

GENERAL REMARKS.

67. *Superior establishment.*—Mr. Ponsonby officiated for me in my absence on privilege leave in the early part of the year and proceeded on furlough immediately on my return; his health had been bad for some time. Mr. Allan, though almost single-handed, having in the superior staff only the services of Mr. Bryant for less than three months in the sleeper season, arranged the felling, sawing, carting, very satisfactorily, although he had great difficulties on account of the winter rains damaging the fair-weather roads. The work was too much for one man. I thought, when I undertook the work, that he would have had more assistance, but with Mr. Broun on survey work, no officer could be spared from the School Circle. I hope the Government will be able to reward an officer who has done such good services as Mr. Allan. Mr. Allan reports very favourably on Mr. Bryant, whose work I was, unfortunately, not able to see. Lieutenant-Colonel Campbell carried on the Pilibhit fellings successfully on taking over charge from Mr. Ponsonby, who had started them experimentally. Mr. Dansey has done good work in Bahraich, and is gaining experience in practical work. Mr. Rebsch has improved in his office work and conducted the sál and assaina bark experiments very successfully. Mr. A. Campbell has done very good work, indeed, in Gorakhpur: he made the best of the material he had, which was very poor. Our difficulty lies in carting: we can fell the trees, cut the sleepers, but when we come to big numbers of sleepers, like 60,000 in Gorakhpur, then the work is one of great difficulty, particularly when, like in the present season, there were splendid crops that waited carting to market. Babu Kanhaya Lal has, besides the regular indent work, supplied a good number of sleepers and trained them on to purchasers. He has had poor health from some time, and I hope he will soon have a rest, to which I think he is entitled.

68. *Upper subordinates.*—These have worked well as a rule. In the office establishment my head-clerk, Babu Raghubar Dayal Bajbai, has given me every assistance, and the majority have done well. The work is getting heavier daily, and an increased establishment is necessary with higher and better paid posts. The Assistant Comptroller, by the new rules, has thrown much of the timber accounts on to the Direction Office, and it seems to me that a reduction in his establishment might be made and the Direction Office increased. In the forest establishment Rangers Raghunath Pathak, Hussain Shah, and Amanat-ulla Khan have done good work, whereas Rangers Debi Parshad, Sital Parshad, and Kasim Khan have not helped their superiors as they should have done

69. *Lower subordinates.*—These men, as a rule, have done good work, but several dismissals and punishments have had to be inflicted; but it is hoped that the proposed reorganization will do good, not that I look for men's honesty by higher-paid posts, but by a better system of check.

70. *Health.*—The health of the establishment has varied considerably in the different Divisions. In Pilibhit and Bhira, from October to December, it was very bad; in Kheri and Bahraich it has been fairly good, and in Gonda good, in Gorakhpur exceptionally good.

NAINI TAL;
The 12th August, 1886.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

ANNUAL STATEMENTS.

ANNUAL FORM No. 49.—(PRESCRIBED.)

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Area of Reserved Forests, 1885-86.

Division or range.	Civil district or territory.	Name of forest.	*Area on 1st April*, 1885. Acres.	*Area on 1st April*, 1885. Equivalent in square miles.	*Added during the year.* Acres.	*Excluded or transferred to other heads.* Acres.	*Area on 1st March*, 1886. Acres.	*Area on 1st March*, 1886. Equivalent in square miles.	No. and date of Notification of addition or transfer.	REMARKS.
Pilibhit Division ...	Pilibhit ...	Pilibhit Division ...	97,045	152	...	...	97,045	152		
Bhira Sub-division,	Kheri ...	Bhira Sub-division ...	91,598	143	...	...	91,598	143	...	5,053 acres of land in grants Thurburnpur and Mailani No. 2 have since been notified as reserved forests will be added in the area statement in 1886-87 (*vide* Government Notification No. $\frac{183 \text{ and } 293\text{F.}}{324-23}$ of 2nd April, 1886, and 5th June, respectively.
Kheri (Trans-Sarda),	Kheri ..	Newalkhar Sub-division. Khairigarh Sub-division	1,68,293	263	...	...	1,68,293	263		
Bahraich Division ...	Bahraich ...	Motipur Sub-division. Bhinga Sub-division...	2,08,000	325	988	967	2,08,021	325	Local Government Notification No. $\frac{492\text{F.}}{295-2}$ of 27th July, 1885.	988 acres of land received in exchange from Sirdar Hira Singh and 967 acres of land made over in exchange.
Gonda Division ...	Gonda ...	Gonda Division ...	98,258	154	...	...	98,258	154	...	Grants Ashrafabad and Yakub Bankat have lately been made over to the Forest Department and will be included in the area statement for 1886-87.
Gorakhpur Division,	Gorakhpur ...	Gorakhpur Division,	1,00,556	157	...	...	1,00,556	157		
		Total ...	7,63,750	1,194	988	967	7,63,771	1,194		
		Area of protected forests.								
Bhira Sub-division,	Kheri ...	Katna Grants ...	11,010	17	...	11,010	...	...	...	This was a mistake of Mr. Ponsonby, there being no protected forests. This area of forest was omitted in Notification No. 194 of 28th February, 1879, of this 5,957 was made over to the Deputy Commissioner for grazing purposes in G. O. No. $\frac{488}{324}$F. of 30th July, 1885, and the rest 5,053 acres have since the commencement of the year 1886-87, been included in the Bhira Sub-division reserved forests. See above.
		Total ...	7,74,760	1,211	988	11,977	7,63,771	1,194		

DATED NAINI TAL;
The 16th August, 1886.

E. WOOD, CAPTAIN,
Conservator of Forests, N. W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 50.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Register of breaches of Forest Rules during 1885-86.

I—PROSECUTIONS IN THE COURTS OF LAW.

Forest Division and Civil Districts.	Cases pending from 1884-85.	New cases of the year.						Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.	Total cases.	Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Pilibhit Division.														
Pilibhit district	...	...	1	1	...	2	2	1	1	1	3	2	4	
Bhira Sub-division.														
Kheri district	1	...	...	...	2	2	3	1	2	2	6	3	8	
Kheri Division.														
Kheri district	...	...	2	...	...	2	2	...	...	2	2	2	2	
Bahramghát Division.														
Bara Banki district	...	...	...	...	2	2	2	2	2	...	...	2	2	
Bahraich Division.														
Bahraich district	...	...	14	...	2	16	16	15	27	1	1	16	28	
Gonda Division.														
Gonda district	...	...	2	21	...	24	24	23	37	1	2	24	39	
Gorakhpur Division.														
Gorakhpur district	...	1	9	...	2	11	11	11	24	...	...	11	24	
Total... { 1885-86 ...	...	1	28	23	8	59	60	53	93	7	14	60	107	
Total... { 1884-85 ...	...	5	37	23	11	77	82	64	127	17	32	81	159	
Difference, 1885-86	...	—4	—9	—1	—3	—18	—22	—11	—34	—10	—18	—21	—52	—1

All the above cases were tried by Magistrates.

Besides these—

In Pilibhit ... 11 cases were compounded by Divisional Forest Officer.
" Bhira ... 3 ditto ditto.
" Bahraich ... 9 ditto ditto.
" Gonda ... 5 ditto ditto.
" Gorakhpur ... 16 ditto ditto.

Naini Tal :
The 12th *August*, 1886.

E. WOOD, Captain,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

APPENDIX A TO ANNUAL FORM No. 50.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Register of breaches of Forest Rules during 1885-86.

II.—CASES COMPOUNDED BY DIVISIONAL FOREST OFFICERS

Forest Division and Civil District.	Cases pending from 1885-86	*New cases of the year.*					Total cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited	Other offences.	Total new cases of the year.		*Convictions.*		*Acquittals.*		*Total.*		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Pilibhit Division.														
Pilibhit district ...	...	...	7	1	3	11	11	10	20	1	1	11	21	
Bhera Sub-division.														
Kheri district ...	...	...	2	1	...	3	3	3	3	...	...	3	3	
Kheri Division.														
Kheri district ...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Bahraighát Division.														
Bara Banki district ...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Bahraich Division.														
Bahraich district ...	...	...	8	1	...	9	9	9	21	...	...	9	21	
Gonda Division														
Gonda district ...	...	...	5	...	...	5	5	5	27	...	...	5	27	
Gorakhpur Division														
Gorakhpur district ...	...	...	16	...	...	16	16	16	32	...	...	16	32	
Total ... 1885-86...	...	...	38	3	3	44	44	43	103	1	1	44	104	
Total ... 1884-85...	...	...	21	2	2	25	25	25	71	...	...	25	71	
Difference ...	...	...	+17	+1	+1	+19	+19	+18	+32	+1	+1	+19	+33	

NAINI TAL
The 7th August, 1886.

E. WOOD, Captain,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

(96)

FORM No 51

FOREST DEPARTMENT, NORTH WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Area of Forest tracts protected from fire during the dry season of 1886, *to accompany Report for* 1885-86

Division.	Forest tracts.	Year in which protection commenced.	Area actually protected up to 15th June, 1886	During dry season of 1886			Cost during the season	Remarks
				Area attempted to be protected.	Failures	Actually protected.		
							Rs.	
Pilibhit ..	North Pilibhit	1880	19,958	20,588	2,482	18,106	1,182	
	East ditto ...							
	South-east ditto							
	Maina Kote ..	1881	11,210	16 850	7·4	16,086		
	Dhanaraghát	1886	...	6,340	1,552	4,808		
	Total ...	...	31,168	43,778	4,808	38,976	1,182	
Bhira ..	Marha ..	1877	15,930	15 930	...	15,930	1,107	
	Menmes Ganj ..	1885	7,114	7,114	...	7,114		
	Kharota ..	1885	3,834	3,834	1,016	2,818		
	Kaptaura and Menaics Ganj	1886	...	7,414	374	7,040		
	Total ...	...	26,878	34,292	1,390	32,902	1,107	
Kheri ..	Dudua home block 1st, or Newaikhar sub division	1872	22,280	22,290	149	22,141	1,950	
	Kusumbha home block 2nd, or Khairigath sub-division.	1881	19,840	19,840	11	19,829	1,278	This sum includes Rs. 272-5-4 of 1885, which were not included in last seasons figures owing to an oversight
	Total ...		42,120	42,130	160	41,970	3,228	
Bahraich .	Motipur Range ...	1878	43 517	47,360	...	47,360	1 131	
	Chakla Charda ...	1875 to 85	23,040	23,040	..	23 400	1,077	
	Bhinga Range ...	1875 to 76	10,402	60,160	350	59,810	1,400	
	Total ..	...	76,959	130,560	350	130 210	3,608	
Gonda ...	Section IV ...	1880	...	25,350	900	24 450	103	
	Nawabganj ...	...	...	6,738	3,537	3,201	50	
	Total ..	...	.	32,098	4,437	27,651	153	
Gurakhpur,	Ramgarh and Tilkonia	1875	6,754	6,754	1,000	5,754	2,311	
	Nagwa ...		6,900	6,900	...	6,901		
	Sonauli and Jagpur ..		22,382	22 382		22 281½		
	Dudhai ...		8,600	8,600		8,600		
	Shillumpur and Banki ...		4,154	4,154	...	4,154		
	East Lehra .		7,600	7,600	...	7 600		
	West Lehra .		12,125	12 305	19½	12,280½		
	Bharibaisi and Bharibabari,		5,950	6,000	...	6,000		
	Total ...	...	74,363	74,596	1,020	73,570	2,311	
		1885 86	251,490	357,448	12,165	345,283	11,589	
		1884-85	147,681	253,968	2,478	251,490	11,8 5	
			+103,849	+103,480	+9,687	+93,793	−216	

NAINI TAL;
The 12th August, 1886.

R WOOD, CAPTAIN,
Conservator of Forests N W P and Oudh, Oudh Circle.

ANNUAL FORM No. 52.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Area of Plantations, 1885-86.

Division.	Name of Plantations.	Area in acres.				Receipts.	Charges.	Remarks.
		On 1st April, 1885.	Added during the year.	Excluded during the year.	Area on 31st March, 1886.	Of the year.		
						Rs.	Rs	
Bahraich	Nishangara	11	...	...	11	...	...	
	Kain ...	5	...	...	5	...	...	
	Doondra	2	...	...	2	...	...	
	Ponsonbyganj	1	...	...	1	...	...	
	Raotara	...	...	...	...	...	...	
	Total	19	...	...	19	...	...	
Gorakhpur	Ramgarh	303	...	...	303	...	601	
	Sonari ...	150	50	...	200	...	551	
	Sokhwi ...	950	450	...	1,400	...	3,834	
	Total	1,403	500	...	1,903	...	4,986	
	Grand Total, Regular plantations	1,422	500	...	1,922	...	4,986	
	Cultural operations.							
Pilibhit	...	...	...	...	...	...	...	
Bhira	...	...	17	...	17	...	63	
Kheri	...	...	33	...	33	...	142	
Bahraich	...	...	5	...	5	...	158	
Gonda	...	...	...	...	...	...	4	
	Total cultural operations	...	55	...	55	...	367	
	Grand Total	1,422	555	...	1,977	...	5,353	

Naini Tal,
The 12th August, 1886.

E. WOOD, Captain,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

FORM No. 53.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Trees felled or girdled by Government Agency during the year 1885-86.
(*Selection fellings*).

Division.	Trees felled or girdled.		Remarks.
	Description.	Number.	
	(*Selection fellings.*)		
Kheri Division	Sál	2,576	
Ditto	Asaina	118	
	Total ...	2,694	
	(*Sleeper fellings*).		
Kheri Division	Sál (Crooked)	10,611	
Ditto	Asaina	9,154	
Gorakhpur Division... ...	Sál (crooked and ralled) ...	15,695	
	Total ...	35,460	
	Grand Total of selection and sleeper fellings.	38,154	

Abstract of the circle.

Description.	1st Class. Over 6′ in girth.	2nd Class. 6′ – 4½′ in girth.	3rd Class. 4½′ – 3′ in girth.	4th Class. 3′ – 1½′ in girth.	5th Class. Under 1½′ in girth.	Total of each kind of trees.	Remarks.
Sál ...	2,671	10,811	15,400	...	...	28,882	
Asaina ...	9,272	...	...	...	...	9,272	
Total ...	11,943	10,811	15,400	...	...	38,154	

NAINI TAL,
The 12th August, 1886.

E. WOOD, CAPTAIN,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

APPENDIX TO FORM No. 53A.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Summary of Receipts and Expenditure on Departmental thinnings during the year 1885-86.

Divisions.	Description of timber.	On hand at commencement of the year.		Cut during the year.		Total.		Expenditure on year's cutting or thinning.		Sold or disposed of during the year.		On hand at close of the year.		Remarks.
		Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
			Rs.		Rs.		Rs.		Rs.		Rs.		Rs.	
Pilibhit	Planks cart loads	...	...	1	3	1	3	...	...	1	3	...	...	
	Uprights and ridge poles	33	5	70	37	103	42			43	21	60	21	
	Rafters	...	...	692	136	692	136			90	23	602	113	
	Saplings	...	...	656	58	656	58	...	4,738	50	1	606	57	
	Miscellaneous wood	...	...	3	5	3	5			3	5	...	...	
	Stacked fuel, Mds.	5,400	648	83,250	8,138	88,650	8,786			88,650	8,786	...	...	
	Fire-wood Mds.	...	...	6,855	287	6,855	287			6,855	287	...	...	
	Sál bark, Mds.	...	...	165	20	165	20			165	20	...	...	
	Total ... { Number ... / Maunds ...	33 / 5,400	653	1,422 / 90,270	8,684	1,455 / 95,670	9,337	...	4,738	187 / 95,670	9,146	1,268 / ...	191	
Gonda	Sál poles (thinnings)	...	...	525		525		525		...		525		
	Sál ballies	...	...	25		25		25		...		25		
	Mahua betas	...	...	17	50	17	50	17	50	...		17	50	
	Mahua fuel, Mds.	...	...	640		640		640		250	25	390		
	Sál fuel, Mds.	...	...	353		353		353		...		353		
	Total ... { Number ... / Maunds ...	...	...	567 / 993	50	567 / 993	50	567 / 993	50	... / 250	25	567 / 743	50	
Gorakhpur	Sál ballas	...	...	3,491	713	3,491	713	3,491		1,491	713	2,000	400	
	Hainga	...	...	1	...	1	...	1		1	...	...	...	
	Sál koras	...	...	87	9	87	9	87		87	9	...	...	
	Sál dhuras	...	...	8	2	4	2	4		4	2	...	...	
	Jamun dhuras	...	...	12	7	12	7	12		12	7	...	...	
	Haris	...	...	1	...	1	...	1	851	1	...	...	...	
	Jamun koras	...	...	100	2	100	2	100		100	2	...	...	
	Gole	...	...	4	1	4	1	4		4	1	...	...	
	Jamun posts	...	...	2	...	2	...	2		2	...	...	...	
	Fire wood, Mds.	...	...	m. 905	340	m. 905	340	m. 905		m. 905	340	...	...	
	Ditto Katwaru Chaudhri ...	...	788	...	...	...	...	...		...	700	...	88	
	Ditto B. and N.-W. Railway ...	...	...	m. 1,300	182	m. 1,300	82	m. 1,300		m. 1,300	182	...	182	
	Total ... { Number ... / Maunds ...	... / ...	788	3,702 / 2,205	1,256	3,702 / 2,205	2,044	3,702 / 2,205	851	1,702 / 2,205	1,956	2,000 / ...	670	
	GRAND TOTAL ... { Number ... / Maunds ...	33 / 5,400	1,441	5,691 / 93,468	9,990	5,724 / 98,868	11,431	4,269 / 3,198	5,639	1,889 / 9,8125	11,127	3,835 / 743	911	

NAINI TAL:
The 12th August, 1886.

E. WOOD, CAPTAIN,
Conservator of Forests, N.-W. Provinces and Oudh, Oudh Circle.

FORM No. 54.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Outturn of timber and other produce during the year 1885-86.

Division	Description of material.	Outturn in cubic feet.							Remarks.
		Selection fellings.	Clearances.	Thinnings.	Total.	Removed by			
						Government agency.	Purchasers.	Free grants.	Right-holders.	
Pilibhit Division ...	Sál wood	...	4,845	45	4,890	...	4 890	...	...	
	Poles, &c	...	5,482	2,165	7,587	...	587	...	...	
	Saplings	...	23,587	900	24,487	...	24,487	...	...	
	Miscellaneous wood	...	9,470	135	9,605	...	9 605	...	...	
	Lg ft wood	...	1 656	...	1 656	...	1,656	...	..	
	Miscellaneous wood	...	20,000	...	20,000	...	...	...	20,000	
	Total ...	...	65,040	3,185	68,225		48 225	...	20,000	
	Stacked fuel	...	...	419 425	419,425	412,125	7,300	...	...	
	Fire-wood including charcoal	...	183,888	20,565	204,453	...	204,453	...	...	
	GRAND TOTAL ...	..	248 928	443,176	692,103	412,125	269 978	...	20,000	
Bhira sub-Division ..	Poles	...	32,531	387	32,918	387	3 110	29,421	...	
	Beams	...	9,220	...	9,220	...	9 220	...	...	
	Uprights	...	17	...	17	...	17	...	...	
	Saplings	...	7,898	...	7,898	...	7,898	...	...	
	Pieces of wood	...	108	...	108	...	108	...	...	
	Cart materials	...	1,803	...	1,803	...	1,803	...	...	
	Harrows	...	125	...	125	...	125	...	...	
	Plough materials	...	6	...	6	...	6	...	...	
	Sugar mills and poles	...	1,470	...	1,470	...	1,470	...	...	
	Miscellaneous	...	84	...	84	...	84	...	...	
	Total ...	...	53,262	387	53,649	387	23,841	29,421	...	
	Firewood	...	360,318	2,385	362,703	...	328,712	31,606	...	
	GRAND TOTAL ...	...	413,580	2,772	416,352	387	352,553	61,027	...	

FORM No. 54.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Outturn of timber and other produce, during the year 1885-86—(concluded).

Division.	Description of material.	OUTTURN IN CUBIC FEET.					Remarks.
		Selection fellings.	Clearances.	Thinnings	Total.	Removed by— Government agency.	Purchasers.	Free grants.	Right-holders.	
Kheri Division	Sal logs and pieces	171,615	617,549	...	689,164	167,442	11,970	89,465	...	
	Asaina logs	476,232	...	...	476,232	6,795	...	...	...	
	Sissu logs	...	164	...	164	...	164	...	...	
	Sal scantlings	...	...	...	...	2,274	...	...	...	
	Sál sleepers	...	...	...	...	2,07,561	...	...	...	
	Asaina sleepers	...	...	...	...	2,37,879	...	...	...	
	Signal posts	...	...	...	...	...	1,649	...	...	...
	Sal poles	...	2,979	...	2,979	43	2,932	...	...	
	Siddhua poles	...	1,982	...	1,982	...	1,982	...	...	
	Bijaisar logs	...	18	...	18	...	18	...	...	
	Khair posts	...	421	...	421	...	421	...	...	
	Miscellaneous articles	...	405	...	405	...	405	...	...	
	Sal slabs and off-cuts	...	...	...	...	217,903	...	...	...	
	Asaina	...	...	...	...	231,558	...	...	...	
	Miscellaneous poles	...	855,892	...	855,892	364	8,043	847,485	...	
	Miscellaneous poles and posts	...	385,020	...	385,020	...	...	385,020	...	
	Total	647,847	1,764,430		2,412,277	10,73,368	25 935	1,312 970	...	
	Firewood	...	453,442	...	453,442	...	39,113	409,972	...	
	Charcoal	...	...	...	...	...	4,357	...	...	
	GRAND TOTAL	647,847	2,217,872		2,865,719	1,073,368	69,405	1,722 942	...	
Bahraich Division	Metre gauge sleepers	5,118	...	...	5,118	5,118	...	...	...	
	Refuse from fellings	5,597	...	...	5,597	...	...	...	...	
	Canoes	...	9,160	...	9,160	9,160	...	...	...	
	Green sál logs	927	115	...	1,042	...	1,042	...	...	
	Dry „ „	...	36 884	...	36,884	...	36,804	80	...	
	Green „ poles	...	4,560	...	4,560	...	4,560	...	...	
	Dry „ „	...	68,806	...	68,806	...	68,806	...	...	
	Green asaina logs	...	712	...	712	...	712	...	...	
	Dry „ „	...	304	...	304	...	304	...	...	
	Green „ poles	...	44,190	...	44,190	...	44 190	...	...	
	Dry „ „	...	2,324	...	2,324	...	2,324	...	...	
	Green miscellaneous logs	...	7,633	...	7,633	...	7,633	...	...	

	Dry ,, ,, ...	...	208	...	208	...	208	...	...
	Green ,, poles	...	985,192	...	985,192	...	1,448	983,744	...
	Total	11,642	1,166,088	...	1,171,725	19,875	168,026	983,824	...
	Firewood	...	381,895	...	381,895	840	381,055	...	...
	GRAND TOTAL ...	11,642	1,541,978	...	1,553,620	21,715	549,081	983,824	...
	Sál	...	2,180	550	2,730	550	2,180	...	...
	Asaina logs	...	7,443	...	7,443	...	7,443	...	...
	Tikoi	...	5,291	...	5,291	...	5,291	...	...
	Jaman	...	2,091	...	2,091	...	2,091	...	...
	Sissu	...	65	...	65	...	65	...	...
	Bhillawar	...	153	...	153	...	153	...	...
Gonda Division ...	Unreserved props	...	46,540	...	46,540	...	...	46,540	...
	Unreserved poles, bati, &c.	...	21,862	...	21,862	...	...	21,862	...
	Total	...	85,625	550	86,175	550	17,323	68,402	...
	Firewood and charcoal	...	169,120	...	169,120	...	126,280	43,330	...
	GRAND TOTAL ...	...	254,745	550	255,295	550	143,603	112,232	...
	Sál ballas	8,440	...	40,602	49,902	8,440	40,602	...	...
	,, koros	1,876	...	2	1,878	1,876	2	...	...
	,, planks	75½	...	...	75½	75½	...	...	...
	,, botas	12	...	...	12	12	...	...	...
	,, sleepers	5,846½	...	...	5,846½	5,846½	...	...	...
	,, bagles	6,138½	...	32	6,170½	6,138½	32	...	...
	,, wheels	...	...	424	424	...	424	...	...
	,, naves	...	...	6	6	...	6	...	...
	,, off-cuts	66½	...	...	66½	66½	...	...	...
	Props and posts	...	...	16	16	...	16	...	...
	Manufacture of carts	...	...	22	22	...	22	...	...
	Haria	...	...	4	4	...	4	...	...
	Gole	...	...	4	4	...	4	...	...
	Aragaj	...	...	24	24	...	24	...	...
Gorakhpur Division ...	Jaman	66	...	366	432	66	366	...	...
	Harra	...	...	2	2	...	...	...	...
	Asaina	216	...	52,400	52,616	216	52,400	...	...
	Miscellaneous	...	...	604	604	...	604	...	...
	Karma	...	...	10	10	...	10	...	...
	Pairna	184	...	42	226	184	42	...	...
	Kajronta	...	...	8	8	...	8	...	...
	Sahera	...	...	26	26	...	26	...	...
	Mohan Kusam	...	...	158	158	...	158	...	...
	Mahua	...	...	4	4	...	4	...	...
	Kund	24	...	...	24	24	...	...	...
	Total	22,947	...	94,756	117,703	22,947	94,705	...	...
	Firewood	58,760	...	204,432	263,192	58,760	204,432	...	...
	GRAND TOTAL ...	81,707	...	299,188	380,895	81,707	299,188	...	...
Grand Total ...	Timber, cubic feet	6,82,436	3,127,436	98,878	3,908,750	1,117,127	378,008	2,394,617	20,000
	Firewood and charcoal	58,760	1,548,663	648,817	2,254,239	474,110	1,294,712	485,418	...

NAINI TAL :
The 12th August, 1886.

E. WOOD, CAPTAIN,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

FORM No. 55.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Outturn of minor Forest Produce.

Division.	Description of produce.	Produce removed or utilized.										Remarks.
		By Government agency.		*By Purchasers.*		*By free grants.*		*By Right-holders.*		*Total.*		
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity	Value	Quantity.	Value.	
			Rs.		Rs.		Rs.		Rs.		Rs.	
Pilibhit Division.	Grass cart loads ...	...	...	1,231	682	...	...	...	...	...	...	
	Ditto ... Mds.	...	...	1,128	1,071	...	...	...	...	...	...	
	Ditto head and pony loads,	...	...	297	223	...	...	...	...	...	...	
	Sál bark cart loads ...	...	...	33	66	...	...	...	...	...	...	
	Ditto ... Mds.	165	21	...	...	...	...	...	...	...	...	
	Royalty on shoe-makers ...	...	...	57	114	...	...	...	...	...	...	
	Hides and horns, &c. ... No.	...	...	2,011	147	...	...	...	...	...	...	
	Drugs, &c. ...	...	...	...	141	...	...	...	...	...	...	
	Lac ...	...	...	...	13	...	...	...	...	...	...	
	Honey and wax ...	...	...	Contract	120	...	...	...	...	...	...	
	Bendu and Moraine No. collectors.	...	...	46	32	...	...	...	...	...	...	
	Baskets and Mats ...	...	...	59	2	...	...	...	...	...	...	
	Total, ... Mds.	165	21	...	2,61	...	...	...	...	...	2,632	
	Grazing buffaloes ...	...	...	...	668	...	...	...	...	...	668	
	Ditto bullocks ...	...	...	...		...	...	...	...	...		
	Ditto cows ...	...	...	...		...	...	...	...	...		
	Ditto goats ...	...	...	...		...	...	...	...	...		
	Total ...	...	...	...	668	...	...	...	...	...	668	
	GRAND TOTAL ...	165	21	...	3,279	...	...	...	...	...	3,300	
	Thatching-grass ...	...	...	1,486 carts	252	603 carts.	131	...	...	2,089 carts	383	
	Manure ...	...	...	115 „	16	...	...	...	...	115 „	16	
				Mds. seer.						Mds. seer.		
	Honey and wax ...	...	...	4 26 and contract	91	...	...	...	...	4 26 & contract	91	
	Mahua ...	...	...	79 37½ „	157	...	...	...	...	79 37½ „	157	
	Hides ...	...	...	28 No „	424	...	...	...	...	No. 28 „	424	
	Panga grass ...	...	...	546 head loads and contract.	57	...	...	...	...	546 head loads and contract.	57	
	Saintha grass ...	...	...	9 head loads and 1 cart.	1	10 head loads and 52 carts.	27	...	...	19 head loads and 53 carts.	28	
	Har ...	...	...	2½ head loads and 1 cart.	20	...	...	...	...	2½ head loads and 53 carts.	20	
	Seenk grass ...	...	...	Contract	17	...	...	...	...	Contract	17	
	Bhliawan ...	...	...	...	7	...	...	...	...	...	7	

Bhira Sub-Division.	Jhankar or thorns	...	...	...	...	...	153 head loads and 21 carts.	5	...	...	153 head loads and 21 carts.	5	
	Rohni	...	...	...	...	5	...	...	...	...	Contract	5	
	Chirouji	...	...	...	...	6	...	...	...	...	...	6	
	Bendu	...	...	...	5 carts	2	25 head loads and 2 carts.	1	...	...	25 head loads and 7 carts.	3	
	Bhingy	...	...	...	Mds. srs. ch 3 5 12	5	...	...	...	...	Mds srs. ch. 3 5 12	5	
	Pipal	...	...	...	0 1¼ 0	1	...	...	...	...	0 1¼ 0	1	
	Kus grass	...	...	...	412 head loads.	6	...	...	...	...	412 head loads	6	
	Bati of minor produce	...	...	...	40 head loads and 25 carts.	7	...	...	...	...	43 head loads and 25 carts.	7	
	Chattawar	...	...	...	Contract	15	...	...	...	...	Contract	15	
	Creepers	...	...	...	...	...	51 head loads 17 carts.	1	...	...	51 head loads.	1	
	Baib grass ... Mds.		3,469	2,775	...	...	...	2	...	...	3,469 maunds and 17 carts	2,777	
	Total	...	3,469	2,775	...	1,089	...	167	...	...	...	4 031	
	Grazing buffaloes	...	...	...	...	3,018	...	...	...	...	...	3,018	
	Ditto bullocks	...	...	...	...		...	...	...	...	...		
	Ditto cows	...	...	...	...		...	...	...	...	...		
	Ditto sheep	...	...	...	...		...	...	...	...	...		
	Total	...	...	...	...	3,018	...	...	...	...	...	3,018	
	Grand Total	...	3,469	2,775	...	4 107	...	167	...	...	...	7,049	
Kheri Division.	Khair	...	...	...	15,029	16,109	...	...	...	...	15,029	16,109	Includes previous year's payment, Rs 6,158.
	Hides	...	...	...	...	1,665	11	...	...	...	11	1,676	
	Pipal	...	...	...	...	151	...	...	...	...	...	151	
	Honey and wax	...	...	...	...	170	...	...	...	...	...	170	Contract actually realized only Rs 997.
	Thatching-grass	...	...	...	...	38	...	...	...	...	...	38	
	Ditto	...	...	...	169 cart loads.	43	12,897 cart load	1,550	...	...	12,566 cart load	1,593	
	Horns	...	...	...	85 No.	1	...	...	...	...	85 No.	1	
	Shell	...	...	...	2 cart loads.	4	...	...	...	...	2 cart load	4	
	Narkul for mats	...	...	...	...	13	...	...	...	...	...	13	
	Reed grass	...	...	...	8	7	7,419 cart load	2,782	...	...	7,427 cart load	2,789	
	Lime	...	...	...	7 cart loads.	10	...	...	...	...	7 ,,	10	
	Baib grass	...	...	...	...	...	76 cart load	76	...	...	76 ,,	76	
	Munj	...	...	...	...	...	897 ,,	1,345	...	...	897 ,,	1,345	
	Total	...	...	...	...	18,211	...	5,753	...	...	...	23,964	
	Grazing buffaloes	...	...	...	...	11,798	...	...	...	...	...	12,741	
	Ditto bullocks	...	...	...	...		...	...	...	...	...		
	Ditto cows	...	...	...	...		...	...	...	...	...		
	Ditto goats	...	...	...	...		...	...	...	...	...		
	Ditto cattle passing	...	...	...	...		...	943	...	...	...		
	Total	...	...	...	...	11,798	...	943	...	...	...	12,741	
	Grand Total	...	...	...	...	30,009	...	6,696	...	...	...	36,705	

FORM No. 55.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Outturn of minor Forest produce.—(continued).

Division.	Description of produce.	Produce removed or utilized.										Remarks.
		By Government agency.		*By Purchasers.*		*By free grants.*		*By Rights-holders.*		*Total.*		
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity	Value.	Quantity.	Value.	
			Rs.		Rs.		Rs.		Rs.		Rs.	
Behraich Division.	Hides	...	...	...	...	1,770	...	...	...	...	...	1,770
	Wax and honey	...	...	...	...	347	...	...	...	...	...	347
	Grasses	...	...	...	...	847	1,200,147 pulas.	3,919	...	...	1,200,147	4,766
	Fruits, mahua	...	...	...	...	442	...	...	...	...	...	442
	Leaves, sgai	...	...	...	...	...	704 head loads.	44	...	...	704 head loads.	44
	Catechu	...	...	...	...	4,756	...	...	...	...	...	4,756
	Canoes	...	...	...	...	48	...	...	...	...	...	48
	Pepper	...	...	...	...	40	...	...	...	...	...	40
	Kankar	...	...	...	...	5	...	...	...	...	...	5
	Thorns	...	...	...	...	...	56,262 pulas	294	...	...	56,262 pulas.	294
	Reeds	...	...	...	...	22	7,402	462	...	...	7,402	484
	Brooms	...	...	...	...	...	263	4	...	...	263	4
	Total	...	...	...	...	8,377	...	4,723	...	...	...	13,000
	Grazing buffaloes	...	...	...	...	9,030	...	...	...	...	...	9,030
	Ditto bullocks	...	...	...	...		...	...	...	...	...	
	Ditto cows	...	...	...	...		...	...	...	...	...	
	Ditto sheep	...	...	...	...		...	...	...	...	...	
	Balrampur and Ehinga cattle,	...	...	...	...	1,308	...	...	...	...	...	1,308
	Total	...	...	...	...	10,338	...	...	...	...	...	10,338
	Grand Total	...	...	...	...	18,615	...	4,723	...	...	...	23,338
	Long-grass	...	...	...	...	3,465	22,335 head loads	153	...	...	...	3,618
	Lime	...	...	...	...	137	...	...	...	...	...	137
	Asaina bark for tanning	...	...	...	...	8	...	...	...	...	...	8
	Mahua flowers	...	...	...	...	827	...	...	...	...	...	827
	Rohin and wax	...	...	...	...	10	...	...	...	...	...	10
	Reeds	...	...	...	...	71	784 head loads	49	...	...	...	120
	Brick-bats	...	...	...	...	48	...	...	...	...	...	48
	Hides	...	...	...	...	258	...	...	...	...	...	258
	Karaunj	...	...	...	...	4	...	...	...	...	...	4
	Catechu	...	...	...	...	3,308	...	...	...	...	...	3,308

Gonda Division.	Washing gold in nalas	...	...	...	...	...	9	...	...	...	...	...	9
	Sirki	...	...	...	...	...	5	...	...	...	...	...	5
	Bankus	...	...	...	...	...	1	...	...	...	...	...	1
	Total	...	...	...	...	...	8,151	...	202	...	...	...	8,353
	Grazing buffaloes	...	...	...	...	...	552	...	...	...	...	...	552
	Ditto bullocks	...	...	...	...	...	1,180	...	...	...	...	...	1,180
	Ditto cows	...	...	...	...	...	201	...	...	...	...	...	201
	Ditto goats	...	Balrampur	contract.	...	...	4,923	...	...	...	...	...	4,923
	Total	...	...	...	...	...	6,856	...	...	...	...	...	6,856
	Grand Total	...	...	...	...	...	15,007	...	202	...	...	...	15,209
Gorakhpur Division.	Hides	...	...	...	...	...	888	...	...	...	...	...	888
	Mahua flowers	...	...	...	...	...	8	...	...	...	...	...	8
	Creeper	...	...	...	...	...	89	...	...	...	...	...	89
	Wild fruits	...	...	...	...	...	25	...	...	...	...	...	25
	Sál leaves	...	...	...	...	...	13	...	...	...	...	...	13
	Agal leaves	...	...	...	...	...	1	...	...	...	...	...	1
	Honey	...	...	...	...	...	19	...	...	...	...	...	19
	Long grass	...	...	...	...	...	8,191	...	...	...	...	...	8,191
	Shells	...	...	...	...	...	6	...	...	...	...	...	6
	Izajat-nauras	...	...	...	...	...	1,406	...	...	...	...	...	1,406
	Ferry toll	...	...	...	...	...	24	...	...	...	...	...	24
	Rent of land	...	...	...	...	...	273	...	...	...	...	...	273
	Indian corn	...	...	...	...	...	32	...	...	...	...	...	32
	Beh	...	...	...	...	...	2	...	...	...	...	...	2
	Total	...	...	...	...	...	10,978	...	...	...	...	...	10,978
	Grazing buffaloes	...	...	...	...	...	2,998	...	...	...	...	...	2,998
	Ditto cow and bullocks	...	...	...	...	...	5,616	...	...	...	...	...	5,616
	Ditto ponies	...	...	...	...	...	2	...	...	...	...	...	2
	Ditto sheep and goats	...	...	...	...	...	14	...	...	...	...	...	14
	Total	...	...	...	...	...	8,630	...	...	...	...	...	8,630
	Grand Total	...	...	...	...	...	19,608	...	...	...	...	...	19,608
	Minor produce	...	...	2,796	...	...	49,716	...	10,845	...	...	...	63,356
	Grazing	...	...	...	...	...	41,319	...	943	...	...	...	42,283
	Total Rs.	...	...	2,796	...	...	90,635	...	11,788	...	...	...	1,05,209

Naini Tal:
The 31st July, 1886

E. WOOD, Captain,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

FORM No. 56.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Account of timber and other produce cut or collected by Government agency and brought to Sale Depôt or sold locally during the year 1885-86.

Particulars.			No. or quantity	Cubic feet.	Total of each head: No. or quantity.	Total of each head: Cubic feet.
Sale Depôt.						
Balance at commencement of the year.						
Bahraighát Division. — Bahraighát Depôt.	Sál logs		1,837	93,784		
	Sissu logs		364	7,644		
	Bahera		1	11		
	Dhaoe		1	14		
	Tikoe		1	10		
	Pándar		1	18		
	Saudri logs		2	39		
	Dhamin logs		2	35		
	Sál scantlings		293,765	87,072		
	Sál sleepers		37,487	47,036		
	Asaina scantlings		530	54		
	Do. sleepers		9,564	13,885		
	Sissu scantlings		1,260	586		
	Deodar scantlings		13	27		
	Sundri scantlings		33	10		
	Dhamin scantlings		27	8		
	Sal poles		85	1,362		
	Miscellaneous poles		706	1,056		
	Sissu stumps		33	281		
	Large boats		26	...		
	Canoes		10	...		
Lucknow Depôt	Sál scantlings		123	190		
Bahraich	Dharmapur Depôt canoes		458	...		
			..	...	3,46,427	2,52,052
Locally.						
At Forest Depôts other than Sale Depôts.						
Kheri	Sál logs		6,773	147,855		
	Asaina logs		876	33,958		
	Sissu logs		3	64		
	Sál sleepers		107,855	169,788		
	Asaina sleepers		51,097	76,756		
	Sál scantlings		642	1,508		
	Sal signal posts		12	305		
	Sál slabs and offcuts		219,521	250,052		
	Boats		74	...		
	Canoes		688	...		
			...	...	380,542	6,80,987
Bahraich	Sál sleepers		4,482	5,902		
	In transit sleepers		330	440		
	Sál offcuts and pieces of logs		2,504	13,553		
	„ „ of sleepers		17,199	17,199		
	„ charcoal	Mds.	50	175		
			...	...	24,513	37,359
			.	...	50	Maunds.
Gorakhpur	Sál beams		162	324		
	„ rafters		13	13		
	„ poles		82	164		
	„ pieces		3,574	14,296		
	„ scantlings		3,371	674		
	„ sleepers		100	150		
	„ offcuts		9,413	18,826		
	Boats		1	...		
			...	..	16,716	34,647
Pilibhit	Sál uprights and poles		38	157		...
	„ firewood	Mds.	5,400	18,900		...
			...	...	33	19,057
			...	...	5,400	Maunds.
Bhira	Firewood	Mds.	1,750	5,250		
	Sal poles	No.	673	6,030		
	„ pieces of wood		15	27		
			...	...	688	11,307
			...	...	1,750	Maunds.
Canoes in transit			4	...	...	...
	Total		...	...	4	...
Total	Number		...	...	7,68,923	1,034,709
	Maunds		...	...	7,200	...

FORM No 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Account of timber and other produce cut or collected by Government agency and brought to Sale Depôt or sold locally during the year 1885-86—(continued).

	Particulars.	No. or quantity	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
	Received from the Forests in Sale Depôts.				
Kheri.	Sál logs	2,579	123,817		
	Asaina logs	415	23,060		
	Sál scantlings	318	1,074		
	Sál sleepers	39,751	56,257		
	Asaina sleepers	24,870	33,160		
	Sál offcuts	27	90		
	Sál offcuts	33,776	23,533		
	Sál poles	66	132		
	Large boats	21	...		
	Canoes	2	...		
		...	...	101,858	260,123
	Received from the Forests in depôts other than Sale Depôt.				
	Kheri selection fellings sál logs and pieces	4,435	171,615		
	Kheri sleepers and other fellings ... 12,713 = 425,593				
	Bahraich do. do. ... 148 = 3,960				
	Gorakhpur do. do. ... 19,854 = 89,416				
	Gorakhpur hollow do. do. ... 4 = 16	32,719	518,985		
	Total ... 32,719 = 518,985				
	Kheri asaina logs and pieces .. = ...	9,462	476,232		
	Kheri sál poles ... ... 2 = 42				
	Bhira sál poles ... ... 320 = 371				
	Bahraich sál poles ... ... 5,142 = 51,021	5,462	51,434		
	Total ... 5,462 = 51,434				
	Pilibhít sál uprights, rafters, &c. ... 709 = 2,105				
	Gorakhpur sál uprights, rafters, &c. ... 1,683 = 1,683	2,482	3,788		
	Total ... 2,482 = 3,788				
	Gorakhpur sál beams	3,088	7,976		
	Pilibhít saplings and miscellaneous poles and pieces. { 600 = 900 / 30 = 135				
	Bhira do. do. ... 10 = 46				
	Kheri do. do. ... 91 = 364				
	Bahraich do. do. ... 9 = 150	869	1,903		
	Gorakhpur do. do. ... 129 = 308				
	Total ... 869 = 1,903				
	Gorakhpur asaina poles, &c.	109	216		
	Gorakhpur sál wood planks ... ... 12 = 3				
	Pilibhít sál wood planks ... ... 45 = 45	57	48		
	Total ... 57 = 48				
	Gorakhpur, { Sleeper edges ... / and offcuts ... / Kheri Dugout canoes ...	9 / Stacks 5 / 80	3		
	Pilibhít / Pilibhít / Bhira / Gorakhpur — Firewood, maunds { 84,525 = 4,04,350 / 6,855 = 20,565 / 150 = 750 / 1,549 = 5,648	Mds 93,479	431,513		
	93,479 = 4,31,513				
	Pilibhít sál bark, maunds ...	Mds. 165	495		
		...	...	59,6 [illegible] Stacks .. 5 Mds. ... 93,644	1,664,210
	Received from the Forests and sold locally.				
	Sál logs	44	848		
	Asaina logs	5	134		
	Jaman scantlings	434	434		
	Dhao axles	30	30		
	Sal offcuts	46	184		
	Jaman offcuts	59	118		
	Sál poles	216	216		
	Sal pieces	5	10		
	Sissu pieces	25	50		
	Kusum jats	2	2		
	Confiscated, waif and drift timber	546	2,709		
	Minor forest produce ... ... Mds.	3,469	10,407		
		...	...	1,2 5 3,469 Mds.	15,202

FORM No. 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Account of timber and other produce cut or collected by Government agency and brought to Sale Depôt or sold locally during the year 1885 86—(continued).

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Received by Conversion in Depôt.				
Sál sleepers	210,105	321,202		
Sál scantlings	118 980	84,290		
Asaina sleepers	158,586	237,8[illegible]9		
Do s antlings	5,578	2,572		
Sal slabs and offcuts	125,167	245,286		
Asaina slabs and offcuts	70,912	231 [illegible]93		
Sál pieces of logs, &c	486	5,654		
Asaina pieces of logs, &c., ...	43	486		
Sál signal posts	90	1,609		
Sissu scantlings	739	266		
Large boat	1	...		
Mango fuel ... ... Mds.	Mds 100	300		
	...	...	6,90,687	1,131,337
Received by transfer from Sale Depôt.				
Sál scantlings	14,813	1,641		
Sal offcuts	...	9,054		
Sal poles	38	76		
Sissu scantlings	5	5		
Sál sleepers	246	369		
Miscellaneous poles	113	226		
Large boats	23	...		
In transit canoes	7	...		
			15,245	11,371
Total ...	...	...	868,607 Stack 5 Mds. 97,213	3,082,243
GRAND TOTAL ...	...	...	1,637,530 Stack 5 Mds 1,04 413	4,116,952
Removed by purchasers from Sale Depôt,				
Ramghát Depôt. Sál logs	154	6,522		
Asaina logs	104	5,074		
Sissu logs	61	1,146		
Sal scantlings	132 220	66,[illegible]92		
Asaina scantlings	5,059	2,191		
Sissu scantlings	170	37		
Sál sleepers	59,016	89,581		
Asaina sleepers	16,645	23,237		
Sál poles	20	393		
Miscellaneous poles...	157	3 4		
Sál off-cuts	17,509	18 410		
Asaina off cuts	353	235		
Pieces of logs	486	5 654		
Pieces of Asaina logs	43	486		
Mango fuel	Mds. 100	300		
Canoes	3	...		
Lucknow Depôt. Sál scantlings	14,936	1,831		
Sissu scantlings	5	5		
Sál sleepers	246	369		
Sal poles	38	76		
Miscellaneous poles	113	226		
Sál offcuts	...	9,054		
Canoes, Dharmapur Depôt, Bahraich	458	...		
	...	...	247,796 Mds. 100	231,942
Removed by purchasers from Forest Depôt other than Sale Depôt				
Sál sleepers. Kheri ... ... 14,218=21,080 Bahraich ... ... 3,828= 5,118 Gorakhpur ... ... 3,899= 5,848 21,940=32,046	21,940	32,046		

FORM No. 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Account of timber and other produce cut or collected by Government agency and brought to Sale Depôt or sold locally during the year 1885-86—(continued).

Particulars.			No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Asaina sleepers, Kheri			1	1		
Sál poles			42	42		
Sál wood planks			45	45		
Sál ridge poles and rafters			170	765		
Miscellaneous poles and rafters			30	135		
Sál slabs and offcuts — Kheri		11,781	23,574			
Bahraich		156	1,488			
Ditto		4,159	4,159			
Gorakhpur		9	3	16,219	29,242	
Ditto		154	268			
		16,219	29,242			
Gorakhpur. — Sál poles, Bhira				558	837	
Sál pieces				29	116	
Sál planks				265	66	
Sál beams, ballas				4,080	8,060	
Sál rafters, koros				1,696	1,696	
Asaina beams, ballas				109	218	
Jamun beams, ballas				31	124	
Pairua beams, ballas				92	184	
Fire-wood. — Pilibhít		88,650 =	419,425			
Pilibhít		6,855 =	20,565			
Bhira		500 =	2,385	Maunds		
Gorakhpur		942 =		97,954	4,48,223	
	Stack	5 =	5,848	Stacks 5		
	Mds.	97,954	4,48,223			
	Stacks	5				
Sál bark, Pilibhít			Mds.	165	495	
Small boats or canoes, Kheri		16		17		
Small boats or canoes, Gorakhpur		1/17				
Large boats, Kheri				2		
Charcoal, Bahraich			Mds.	36	125	
					45,376 Stacks 5 Mds. 98,155	5,21,970
Sold locally.						
Sál logs				44	848	
Asaina logs				5	134	
Jaman scantlings				434	434	
Dhao offcuts				30	30	
Sál axles				49	184	
Jamun offcuts				59	118	
Sál				216	216	
Sál pieces				5	10	
Sissu pieces				25	50	
Asaina jats				2	2	
Drift and confiscated timber				346	2,769	
Minor produce			Mds.	3,469	10,407	
					1,915 Mds. 3,469	15,202
Converted in Depôt.						
Sál logs and pieces — Kheri		13,493 =	444,184			
Bahramghát		2,416 =	121,142			
Gorakhpur		18,530 =	74,156	34,450	639,482	
Total		34,450 =	639,482			
Asaina logs — Kheri		9,171 =	468,920			
Bahramghát		55 =	2,646	9,226	471,566	
Total		9,226 =	471,566			
Sissu logs, Bahramghát				24	660	
Sál scantlings				9,259	10,659	
Asaina scantlings				680	234	
Sál poles				1	17	
Sál sleepers				74	120	
					53,714	11,22,738

FORM No. 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Account of timber and other produce cut or collected by Government agency and brought to Sale Depôt or sold locally during the year 1885-86—(continued).

Particulars.		No. or quantity.	Cubic feet.	Total of each head: No. or quantity.	Total of each head: Cubic feet.
Lost or written off as useless.					
Sál sleepers, Bahraich		72	100		
Sál pieces		207	328		
Firewood, Pilibhít	Mds.	1,275	3,825		
Large boats		5			
Sál sleepers, loss in measurement			1,520		
Asaina ditto ditto			2,075		
				284	8,448
				Mds. 1,275	
Used by the Department.					
Signal posts		2	76		
Sál sleepers		235	1,024		
Sál poles or ballis		5	75		
Miscellaneous		12	24		
Sissu scantlings		996	129		
Sál scantlings		44,211	10,528		
Sál planks		1,600	411		
				47,063	12,267
Transferred to Sale Depôt.					
Sál logs		2,579	123,817		
Asaina logs		451	23,160		
Sál sleepers		32,751	56,257		
Asaina logs		24,470	33,160		
Sál slabs or offcuts		33,803	22,533		
Sál sleepers and scantlings and planks		315	1,074		
Sál poles		66	132		
Large boats		21			
Canoes		2			
				101,858	260,123
Transferred to Sale Depôt, Lucknow.					
Sál scantlings to Lucknow Depôt		14,813	1,641		
Sál sleepers		246	369		
Sissu scantlings		5	5		
Sál off-cuts			9,054		
Sál poles		38	76		
Miscellaneous		113	226		
Large boats, Kheri		28			
Canoes (in transit, Kheri)		7		15,245	11,371
Total				512,450	2,184,059
				Stack 5	
				Mds. 1,02,999	
Balance at close of the year.					
Bahramghát Division.	Sál logs	1,844	89,937		
	Asaina logs	292	15,339		
	Sissu logs	279	5,858		
	Bahera logs	1	11		
	Dhao logs	1	14		
	Pander logs	1	18		
	Tikoe logs	1	10		
	Sundri logs	2	39		
	Dhamin logs	2	35		
	Sál scantlings	212,189	80,542		
	Sál sleepers	32,766	41,564		
	Asaina sleepers	17,889	22,808		
	Do. scantlings	369	211		
	Sissu scantlings	828	681		
	Sundri scantlings	33	10		
	Deodar scantlings	13	27		
	Dhamin scantlings	27	8		
	Miscellaneous poles	424	492		
	Sál poles	65	853		
	Large boats	23			
	Canoes	2			
	Sissu stumps	33	281		
	Sál offcuts	33,776	22,533		
				300,880	281,251
In transit canoes		7		7	

FORM No. 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Account of timber and other produce cut or collected by Government agency and brought to Sale Depôt or sold locally during the year 1885-86—(concluded).

Particulars		No or quantity	Cubic feet	Total of each head: No or quantity	Total of each head: Cubic feet
	Locally				
Kheri Division	Sál logs and pieces	7,849	177,082		
	Asáina logs and pieces	656	18,210		
	Jáun logs	3	64		
	Sál sleepers	191,914	297,231		
	Sál scantlings	366	2,274		
	Asáina sleepers	184,812	279,894		
	Sál plank &c	365	812		
	Sál signal posts	99	1,888		
	Sal slubs	274 623	421,948		
	Asáina slabs	70,559	231 558		
	Large boats	71	...		
	Dugouts canoes	750	...		
	Sal poles	27	252		
				742,096	1,430,941
Bahraich Division,	Sál sleepers	582	774		
		320	440		
	Sál offcuts and ends of logs	2,766	12,115		
	Sál sleeper offcuts	13,040	13,040		
	Sál logs	148	3,960		
	Sál poles	5,148	51,021		
	Miscellaneous poles	9	150		
	Charcoal	Mds 14	50		
				21,615 Mds. 14	81,550 *
Gorakhpur Division.	Sál beams or ballas or golas	202	404		
	Sál pieces	4 559	28,512		
	Sál planks	1,518	400		
	Sál sleepers	59,108	79,662		
	Sál offcuts	2,279	18,558		
	Sál hollow logs	4	16		
		...	...	68,764	127,652
Pilibhit Division	Ridge poles	10	52		
	Uprights	50	195		
	Rafters	603	1,250		
	Saplings	606	900		
		...	...	1,268	2,397
Ehira Sub-division	Poles, &c.	425	6,014		
	Pieces of wood	35	73		
	Firewood	Mds. 1,400	3,615		
		...	...	460 Mds. 1,400	9,702
	Total	...	...	No 1,125,080 Stack 5 Mds. 1,414	19 82,893
	GRAND TOTAL	...	...	1,637,530 Stacks 5 104,413	41,16,952

NAINI TAL
The 12th August, 1886.

E. WOOD, CAPTAIN,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

FORM No. 57.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Abstract showing the value of timber and other produce at Sale Depôts, for the year 1885-1886.

Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks.
	Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favor of the year.	Against the year.	
Timber.			Rs.			Rs.		Rs.	
Logs	2,209	101,575	74,233	2,423	111,262	72,113	...	...	
Sleepers and scantlings	342,992	147,878	1,22,640	264,114	145,851	1,02,335	...	...	
Poles	789	2,318	807	513	1,325	478	...	..	
Slabs end-pieces, stumps	33	281	83	33,836	34,084	6,760	...	...	
Canoes and boats	494	...	20,757	25	...	5,790	...	...	
Total	346,427	252,052	2,18,470	300,911	292 522	1,97,976	...	20,494	

Net difference Rs. 20,494 against the year.

FORM No 57A.

Abstract showing the value of timber and other produce in Forest Depôt other than Sale Depôt, for the year 1885-86.

			Rs.			Rs.	Rs.	Rs.	
Timber.									
Logs	7,652	181,877	82,434	8,656	272,867	1,02,324	...	...	
Sleepers and scantlings	167,889	255,814	2,17,436	439,784	668,379	3,34,189	...	...	
Poles	963	6,688	261	7,069	54,712	884	...	...	
Slabs end-pieces, &c.	241,686	299,630	37,454	380 904	413,791	25,862	...	...	
Boats and canoes	767	...	43,245	821	...	29,200	...	...	
Total	418,907	744,009	3,80,830	837,234	1,409,749	4,92,459	111,629	...	
Firewood and Charcoal.									
Fuel	7,150	24,150	894	1,400	3,615	56	...	...	
Charcoal	...	...	...	14	22	7	...	...	
Total	7,150	24,150	894	1,414	3,637	63	...	831	
Grand Total	426,057	768,159	3,81,724	838,648	1,413,386	4,92,522	111,629	831	

Naini Tal.
The 1st August, 1886.

	Rs.		
Net difference	1,10,798	In favor of the year.	
Deduct difference	20,494	against the year in Form No. 57.	
Net difference	90,304	in favor of the year.	

E. WOOD, Captain,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

FORM No. 57B.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Abstract showing the value of live and dead stock for the year 1885-86.

Description of live and dead stock.	On hand at the commencement of the year.		On hand at the close of the year.		Differences in value.		Remarks.
	Number	Value.	Number.	Value.	In favor of the year.	Against the year	
DIRECTION DIVISION.		Rs.		Rs.	Rs.	Rs.	
Dead stock.							
3. Tools	1	1	1	1			
4. Office furniture	62	171	62	171			
5. Tents and equipages	5	260	5	260			
7. Miscellaneous	4	4	4	4			
Total	72	436	72	436			
PILIBHIT DIVISION.							
Live stock.							
Elephant	1	1,800	1	1,800			
Bullocks	4	160	4	160			
Dead stock.							
1. Surveying and other instruments	21	16	21	19			
2. Machinery	2	31	5	31			
3. Tools	181	108	388	329			
4. Office furniture	11	62	11	62			
5 Tents and equipages	3	70	3	70			
7. Miscellaneous	380	775	523	872			
Country carts	2	80	2	80			
Buildings	8	7,875	8	7,875			
Total	613	10,977	973	11,298	321	...	
BHIRA SUB-DIVISION.							
Live stock.							
Bullocks	2	80	2	80			
Buffaloes	1	15	...	...			
Dead stock.							
1 Surveying and other instruments	86	90	41	114			
3 Tools	132	91	136	92			
4 Office furniture	48	93	61	95			
5 Tents and equipages	4	190	4	190			
6 Building materials, small stores and house-fittings.	209	194	218	494			
7 Miscellaneous	59	168	62	125			
Country carts	2	80	2	80			
Buildings	8	11,044	8	11,044			
Total	501	12,343	534	12,314	..	29	
KHERI DIVISION.							
Live stock.							
Elephants	4	8,500	4	8,500			
Bullocks	4	110	4	110			
Buffaloes	4	32	2	16			
Dead stock.							
1 Surveying and other instruments	10	750	27	866			
3 Tools	2,753	2,023	2,761	2,031			
4 Office furniture	325	973	326	981			
5 Tents and equipages	9	803	11	1,278			
6 Building materials, small stores and house-fittings	7,228	1,701	4,996	1,575			
7 Miscellaneous	1,986	1,102	1,197	1,123			
Country carts	10	193	11	193			
Buildings	10	31,585	11	35,470			
Total	11,443	47,792	9,350	52,143	4,421	...	
BARRAMGHAT DIVISION.							
Live stock.							
Buffaloes	12	127	9	90			
Dead stock.							
1 Surveying instruments	49	121	49	121			
2 Machinery	38	38,700	51	39,395			
3 Tools	814	1,899	711	1,514			
4 Office furniture	82	400	68	454			
6 Building materials, small stores and house-fittings.	6	16	11	62			
7 Miscellaneous	...	286	...	225			
Timber transport carts	2	250	2	250			
Country carts	10	125	10	125			
Buildings	2	10,000	2	10,000			
Total	1,015	51,874	913	52,236	362	...	

FORM No. 57B.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Abstract showing the value of live and dead stock for the year 1885-86—(concluded).

Description of live and dead stock.	On hand at the commencement of the year.		On hand at the close of the year.		Difference in value		Remarks.
	Number.	Value	Number.	Value.	In favour of the year.	Against the year.	
BAHRAICH DIVISION.		Rs.		Rs.	Rs.		
Live stock.							
Elephant	1	2,600	1	2,000			
Dead stock.							
1 Surveying and other instruments ...	44	216	61	309			
3 Tools	1,084	359	1,791	1,049			
4 Office furniture	173	596	367	1,074			
5 Tents	26	355	5	480			
6 Building materials, &c.	303	170	111	66			
7 Miscellaneous	555	72	353	522			
Buildings	15	22,924	32	43,433			
Total ...	2,051	27,322	2,621	49,433	22,211	...	
GONDA DIVISION.							
Live stock.							
Elephant	1	1,000	1	500			
Buffaloes	2	14	1	11			
Dead stock.							
1 Surveying and other instruments ...	3	33	6	109			
3 Tools	306	240	306	240			
4 Office furniture	43	250	43	250			
5 Tents and equipages	4	331	5	487			
6 Building materials, small stores, and house-fittings.	10	4	10	4			
7 Miscellaneous	2	2	5	7			
Buildings	2	4,000	2	4,000			
Total ...	373	5,874	379	5,608	...	266	
GORAKHPUR DIVISION.							
Live stock.							
Elephant	1	1,100	1	1,100			
Dead stock							
1 Surveying and other instruments ...	11	93	11	93			
2 Machinery	1	150	1	150			
3 Tools	177	189	413	137			
4 Office furniture	2,042½	1,011	50,947	1,090			
5 Tents and equipages	5	200	5	200			
7 Miscellaneous	129	209	129	209			
Buildings	9	9,000	9	9,000			
Total ...	20,764	11,912	51,516	11,979	97	...	
GRAND TOTAL ...	36,822	1,08,400	66,358	1,95,447			
ABSTRACT OF THE CIRCLE.							
Live stock.							
Elephants	3	15,000	8	14,500			
Bullocks	10	350	10	350			
Buffaloes	19	188	12	117			
Total ...	37	15,538	30	14,967	...	571	
Dead stock.							
1 Surveying and other instruments ...	174	1,119	226	1,531			
2 Machinery	41	38,881	54	39,576			
3 Tools	5,398	4,910	6,507	5,393			
4 Office furniture	21,165	3,486	51,785	4,177			
5 Tents and equipages	56	2,209	53	2,955			
6 Building materials, small stores, and house fittings.	7,656	2,385	5,346	2,201			
7 Miscellaneous	2,215	2,666	2,273	3,087			
Country carts	26	736	27	738			
Buildings	54	96,878	72	1,20,822			
Total ...	36,785	1,53,862	66,328	1,80,480	27,618	...	
GRAND TOTAL ...	36,822	1,68,400	66,358	1,95,447	27,047	...	

NAINI TAL:
The 12th August, 1886.

E. WOOD, CAPTAIN,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 58.—[PRESCRIBED]. [CODE, PARAS 253, 255.]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Annual Summary of Revenue of the different Divisions, 1885-86.

Budget heads.	Direction.	Kheri Division.	Bhira Division.	Bahramghát Division.	Bahraich Division.	Gonda Division.	Gorakhpur Division.	Pilibhít Division	Total
RECEIPTS									
I.—Timber and other produce removed from the Forests by Government agency —	Rs. a. p	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p	Rs. a. p.	Rs. a. p
(a) Timber	...	2,55,565 13 7	20 13 0	1,44,845 8 7	6,675 5 6	934 11 2	79,633 1 7	53 8 0	4,97,728 13 5
(b) Firewood and charcoal	...	...	106 0 0	11 0 0	27 11 1	25 0 0	1,446 14 1	9,073 0 6	10,691 9 8
(c) Bamboos	...	...	...	...	...	...	...	...	...
(d) Sandal wood	...	...	...	...	...	...	...	...	...
(e) Grass and other minor produce	...	...	2,775 0 0	...	...	...	...	20 8 0	2,795 8 0
II.—Timber and other produce removed from the Forests by consumers or purchasers —									
(a) Timber	...	4,735 9 1	1,616 14 0	...	23,287 3 2	9,148 5 0	19,791 10 11	1,983 0 6	60 562 10 8
(b) Firewood and charcoal	...	355 5 0	620 10 0	...	1,570 4 4	1,620 7 4	6,713 5 2	3,424 4 6	14,704 4 4
(c) Bamboos	...	...	...	...	...	...	...	...	...
(d) Grazing and fodder grass	...	11,798 3 0	3,018 0 0	...	10,398 5 10	6,855 15 7	8,630 7 6	667 13 9	41,368 13 8
(e) Other minor produce	...	11,025 9 7	1,086 12 9	...	8,276 [illegible] 0	8,151 5 7	19,977 8 6	2,610 11 7	42,130 10 0
III.—Confiscated, drift and waif wood	...	799 2 9	56 3 0	22 12 0	1,100 0 0	969 11 2	210 12 3	835 8 3	3,994 1 5
IV.—Revenue from forests not managed by Government —									
(a) Duty on foreign timber and other forest produce,	...	...	...	...	...	...	...	...	...
(b) Revenue from shared and private forests	...	...	...	...	...	...	...	...	...
V.—Miscellaneous —									
(a) Fines and forfeitures	...	344 12 0	71 13 0	5 0 0	168 13 0	25 10 0	12 12 0	148 4 4	772 0 4
(b) Refunds	0 4 0	258 13 9	...	...	46 1 2	5 0 0	171 15 8	4 12 2	486 14 9
(c) Other sources	...	3,423 13 5	177 15 3	414 15 9	431 2 1	2 8 1 3	2,100 6 3	170 9 7	6,936 15 7
Total, Receipts	0 4 0	2,98,307 2 2	9,554 1 0	1,45,299 4 4	51,916 8 2	27,954 3 1	1,29,688 13 11	18,992 1 2	6,81,712 5 10

CALCUTTA:
The 14th July, 1886.

J TAYLOR,
Assistant Comptroller-General, (*Forests*).

ANNUAL FORM No. 58.—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Annual Summary of Expenditure of the different Divisions, 1885-86.

Budget heads.	Direction.	Kheri Division.	Bhira Division.	Bahramghát Division.	Bahraich Division.	Gonda Division	Gorakhpur Division	Pilibhít Division.	Total.
A.—Conservancy and Works.									
I.—Timber and other produce removed from the Forests by Government agency —	Rs a. p	Rs. a. p.	Rs a. p	Rs. a. p	Rs. a. p	Rs a. p	Rs a p.	Rs. a. p.	Rs. a. p.
(a) Timber	...	2,49,842 10 9	10 6 0	28,603 0 10	277 10 3	202 2 2	28,245 10 7	.	3,06,781 8 5
(b) Firewood and charcoal	...	1,670 12 3	77 12 0	..	9,084 14 7	18 15 0	1,122 3 4	4,736 3 11	16,512 13 1
(c) Bamboos	...	...	...	...	...	...	...	...	...
(d) Sandal wood	...	...	..	..	...	...	...	..	.
(e) Grass and other minor produce	...	.	411 15 9	...	..	280 12 11	..	8 8 8	701 3 4
II.—Timber and other produce removed from the Forests by consumers or purchasers.	...	1,455 15 1	2,264 6 7	...	1,644 15 4	926 5 8	1,661 15 6	3,582 8 3	11,756 2 5
III.—Confiscated drift and waif wood ..	...	270 5 5	..	...	138 4 10	55 2 10	...	...	463 13 1
IV —Revenue from Forests not managed by Government —									
(a) Duty on foreign timber and other forest produce,	...	...	...	...	...	..	...	...	.
(b) Revenue from shared and private forests	...	...	...		...	...	...	...	...
V.—Rent of leased forests and payments to share-holders in Forests managed by Government.	...	...	...	...	..	...	...	...	...
VI —Live Stock, Stores, Tools and plant —									
(a) Purchase of cattle	...	...	...	...	...	...	...	.	..
(b) Feed and keep of cattle	...	2 475 15 11	102 0 9	658 3 0	437 10 4	502 0 6	619 11 7	830 10 8	5,626 4 9
(c) Stores, tools and plant	...	602 8 0	29 15 3	529 14 0	614 10 6	93 12 0	223 12 6	236 12 6	2,331 4 9
VII.—Communications and buildings —									
(a) Roads and bridges	...	4,999 2 1	218 11 6	13 5 3	5,249 6 7	767 12 3	490 6 3	504 2 6	11,843 0 5
(b) Buildings	...	825 5 8	513 4 6	351 3 0	7,606 1 7	1,234 1 7	2,911 14 3	516 7 8	13,960 6 3
(c) Other works	...	499 14 7	23 7 0	...	615 12 3		22 12 7	19 10 6	1,181 8 11
VIII —Demarcation, improvement and extension of Forests —									
(a) Demarcation	...	159 13 9	440 10 0	...	131 12 0	343 15 6	2,321 5 7	55 13 6	3,453 6 4
(b) Compensation for land and rights	...	....	34 1 0	...	...	...	...	...	34 1 0
(c) Surveys and working plans	...	1,052 14 6	...	...	...	...	...	...	1,052 14 6
(d) Plantations	...	142 7 2	62 12 0	...	157 12 3	4 8 0	4 985 14 7	...	5 353 6 0
(e) Protection from fire	...	2,698 4 9	1,550 5 4	...	2,807 1 6	254 4 0	1,786 3 9	1,728 10 4	10,824 13 8
(f) Other works	...	15 0 0	1 8 0	...	1,632 11 11	227 1 0	2,440 14 0	10 10 3	4,327 13 2
X —Miscellaneous :—									
(a) Refunds	...	...	...	...	254 2 6	...	...	...	254 2 6
(b) Law charges	...	1 5 0	...	...	...	...	209 14 1	9 10 0	211 13 1
(c) Other charges	...	710 7 8	170 1 9	46 8 0	504 1 7	232 1 1	81 7 0	117 15 7	1,862 10 8
Total A.—Conservancy and Works	...	2,66,722 14 7	5,911 3 5	30,302 2 1	31,457 0 0	4,742 14 4	47,135 3 7	12,361 12 4	3,88,533 2 4

Calcutta:
The 14th July, 1886

J TAYLOR,
Asst. Comptroller-General (Forests).

ANNUAL FORM No. 58—[PRESCRIBED].

[CODE PARAS. 253, 255].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Annual Summary of Expenditure of the different Divisions, 1885-86—(concluded).

Budget heads.	Direction.	Kheri Division.	Bhira Division.	Bahramghát Division.	Bahraich Division.	Gonda Division.	Gorakhpur Division.	Pilibhít Division.	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Brought forward, Total A.—Conservancy and Works ...	...	2,66,722 14 7	5,911 3 5	30,202 2 1	31,457 0 0	4,742 14 4	47,135 3 7	12,361 12 4	3,98,533 2 4
B.—ESTABLISHMENT.									
I.—Salaries —									
(*a*) Conservator	17,617 15 9	...	...	...	...	...	...	...	17,617 15 9
(*b*) Superior officers	...	13,833 5 9	...	3,000 0 0	6,980 0 0	6,039 1 4	4,609 10 10	11,201 11 7	45,663 13 6
(*c*) Subordinate forest and depôt establishment ...	...	4,381 5 3	1,016 12 0	317 2 7	2,681 7 3	1,568 8 2	4,867 4 6	590 9 9	15,363 1 6
(*d*) Office establishments	2,400 0 0	1,796 0 0	44 6 5	540 0 0	1,408 0 8	416 0 0	105 8 0	631 7 9	7,345 6 10
(*e*) Deputation and special allowances...	...	...	...	.	...	...	...	...	...
II.—Travelling allowances —									
(*a*) Conservators	1,825 5 0	...	...	...	...	...	...	...	1,825 5 0
(*b*) Superior officers	...	2,417 10 0	...	262 12 6	1,355 0 0	1,324 2 6	1,507 4 0	1,035 6 0	7 902 3 0
(*c*) Subordinate forest and depôt establishments ...	...	1,017 8 4	65 0 8	...	843 6 0	254 2 8	382 7 8	161 3 0	2,723 12 4
(*d*) Office establishments	595 12 6	438 5 4	19 7 2	2 12 0	488 8 0	133 0 0	...	177 2 0	1,854 15 0
III.—Contingencies :—									
(*a*) Stationery	9 3 0	...	7 8 6	4 8 0	1 0 0	9 14 6	1 15 0	4 9 6	38 10 6
(*b*) Carriage of tents and records ...	400 1 0	117 2 0	43 14 0	...	101 1 0	106 0 9	31 0 0	38 4 0	837 6 9
(*c*) Rents, rates and taxes	202 8 0	...	103 8 0	...	1 1 0	100 0 0	100 0 0	104 8 0	611 9 0
(*d*) Pay of police-guards	...	184 15 3	...	192 0 0	119 0 0	175 13 9	60 0 0	102 3 4	833 14 4
(*e*) Official postage	183 9 6	99 2 0	31 15 6	63 4 6	60 14 6	57 15 6	34 15 0	42 13 0	574 7 6
(*f*) Sundries	328 11 4	715 12 7	76 10 10	56 12 9	361 9 9	180 8 7	174 15 9	114 13 5	2,011 15 0
Total, B.—Establishments ...	23,563 2 1	25,003 0 6	1,429 3 1	4,441 4 4	13,901 0 2	10,307 1 9	11 875 0 9	14,144 11 4	1,04,664 8 8
GRAND TOTAL OF EXPENDITURE ...	23,563 2 1	2,91,725 15 1	7,340 6 6	34,643 6 5	45,358 0 2	15,050 0 1	59,010 4 4	26,506 7 8	5,03 197 10 4

CALCUTTA
The 14th July, 1886

J TAYLOR,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 59—[PRESCRIBED].

[CODE, PARAS. 253, 255.]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Account-current for the year 1885-86.

	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
To cash balance	...	976 8 3	By expenditure as per Annual Summary (Form No. 58)	...	5,98,197 10 4
„ Revenue as per Annual Summary (Form No. 58)	...	6,81,712 5 10	„ Deposits	...	300 0 0
„ Service Funds—			„ Forest cash remittances (Local)—		
Uncovenanted Service Family Pension Fund	393 9 5	...	Remittances to treasuries	2,76,178 12 11	...
Military Fund—Bengal	240 9 0	...	Inter-divisional transfers	24,142 12 10	
Military Orphan Fund—Bengal	169 5 7	803 8 0			3,02,321 9 9
			„ Advances recoverable	...	6,58,983 7 6
„ Deposits	...	300 0 0	„ Suspense	...	4,268 7 4
„ Forest cash remittances (Local)—			„ Account-current other Governments—		
Forest cheques drawn	5,87,259 9 6	...	Government of India	1,71,510 2 4	...
Inter-divisional transfers	24,831 1 6		Government of Panjáb	130 14 11	
		6,12,090 11 0			1,71,641 1 3
„ Advances recoverable	...	5,75,851 3 4	„ Inter-departmental transfers—		
„ Account-current—(other Governments)—			Public Works Department, State Railways	1,82,317 5 5	...
Government of India	3,466 3 11	...	Ditto, other Branches	20,678 14 11	...
Ditto Bengal	435 11 3		Civil Department—		
		3,899 15 2	Miscellaneous ... ... Rs. 1,418-11-9	...	...
„ Inter-departmental transfers—			Jails ... ... „ 29,514-2-5	30,932 14 2	
Public Works Department, State Railways	6 9 0	...			2,33,929 2 6
Ditto, other Branches	396 11 0	...			
Civil Department—					
„ Mathematical Instrument Department, Rs. 256-10-0	...	...			
Jails ... ... „ 164-6-0	421 0 0		„ Cash balance	...	* 1,917 0 11
		824 4 0			
Total ...	...	18,75,958 7 7	Total ...	...	18,75,958 7 7

CALCUTTA:
The 14th July, 1886.

J. TAYLOR,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 60—[Prescribed].

(Code, paras 253, 255)

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Revenue received and outstandings on account of Revenue during 1885-86.

Division.	Particulars	Outstandings at commencement of year.	Value of sales and other revenue during year	Total.	Amount realised during year.	Balance due to the Department at end of year	Remarks
		Rs a p.	Rs a. p	Rs a p	Rs a. p	Rs a. p	
Direction ...	Timber, grazing and other forest produce, &c	...	0 4 0	0 4 0	0 4 0	...	
Pilibhit ...	Ditto ditto ...	...	19,004 0 0	19,004 0 0	18 992 0 0	12 0 0	
Bhira ...	Ditto ditto ...	260 0 0	9 902 0 0	10,111 0 0	9 554 0 0	557 0 0	
Kheri ...	Ditto ditto ...	7 135 0 0	2,97,719 0 0	3,84,854 0 0	2,98 307 0 0	6,547 0 0	
Bahramghát ...	Ditto ditto ...	2,715 0 0	1,88,987 0 0	1,91 702 0 0	1,45,299 0 0	46 403 0 0	
Bahraich ...	Ditto ditto	4,821 0 0	49,825 0 0	54 646 0 0	51,917 0 0	2,729 0 0	
Gonda ...	Ditto ditto	1 0 0	27,971 0 0	27 972 0 0	27,954 0 0	18 0 0	
Gorakhpur ...	Ditto ditto ...	7,255 0 0	1,27 220 0 0	1,34,475 0 0	1,29,689 0 0	4,786 0 0	
	Total ...	22,180 0 0	7,20 629 4 0	7,42,784 4 0	6,81,712 4 0	(a) 61,052 0 0	

Remarks		Rs
(a) From Public Department	...	46,403
From Private purchasers	...	14,649
Total	...	61,052

Naini Tal:
The 12th August, 1886

E WOOD, Captain,
Conservator of Forests, N-W P and Oudh, Oudh Circle.

ANNUAL FORM No. 61—[Prescribed].

[Code, Paras. 253, 255]

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Outstandings and liabilities on account of Contractors and Disbursers for 1885-86.

Division	*Department debtor*			*Department creditor*			*Balance due*		Remarks.
	At commencement of year	Recoveries in cash and value of supplies and work done during the year	At close of year	At commencement of year	Payments made during year	At close of year	To Department (Outstandings)	By Department (Liabilities)	
	Rs. a p	Rs a p	Rs a p	Rs a. p.	Rs a. p	Rs a p.	Rs. a. p.	Rs. a. p	
Direction	...	1,880 1 1	1,880 1 1	63 6 1	1,631 14 0	1,915 4 1	65 3 0	-	
Kheri Division ...	...	4,32,979 9 0	4,32,979 9 0	59,746 4 4	4,98,521 13 5	5,58 270 2 0	1,25,339 9 0	49 0 0	
Bhira Sub	...	6,909 9 6	6,909 9 6	892 0 10	7,715 10 8	8,607 11 6	1 698 2 0	...	
Bahramghat	...	431 9 9	431 9 9	30 8 3	764 9 7	795 1 10	343 8 1	...	
Bahraich	0 1 0	59,706 1 2	59 706 2 2	5 500 1 5	64 104 11 9	69,604 13 2	9,898 11 0	...	
Gonda	...	14,674 7 6	14 674 7 6	850 3 6	14,421 13 2	15,302 0 8	627 9 2	...	
Gorakhpur	...	40 764 1 3	40,764 1 3	4,860 11 9	54 060 3 0	58 920 14 9	18,156 13 6	-	
Pilibhit	...	18,035 12 1	18,035 12 1	1,966 3 2	16,962 11 8	18,928 14 10	893 2 9	...	
Total ...	0 1 0	5,75,351 3 4	5,75,351 4 4	73,961 7 4	6,58,383 7 6	7,32,344 14 10	1,57,042 10 6	49 0 0	

Calcutta:
The 14th July, 1886.

J TAYLOR,
Assistant Comptroller-General (Forests)

ANNUAL FORM No. 62—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Financial results of the year 1885-86.

Division.	*Timber and other produce removed from the forests by Government agency*		*Other revenue.*		*Formation, protection, and improvement of forests*	*Total.*		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs	Rs.	Rs.	
Pilibhit Division ...	9,147	4,747	9,845	13,084	11,294	18,992	29,124	—10,132
Bhira Sub division ...	2,904	500	6,650	4,814	4,644	9,554	9,958	—404
Kheri Division ...	2,65,566	2,85,457	32,741	23,312	23,555	4,48,607	3,34,324	+1,09,383
Bahramghát Division ...	1,45,300							
Bahraich Division ...	6,703	9,462	45,214	19,193	21,940	51,917	50,594	+1,323
Gonda Division ...	950	502	26,994	8,664	8,502	27,954	17,668	+10,286
Gorakhpur Division ...	81,080	29,368	48,609	11,204	21,056	1,29,689	61,628	+68,061
Total ...	5,11,660	3,30,036	1,70,053	80,170	92,991	6,81,713	5,03,197	

NAINI TAL:
The 12th August, 1886

E. WOOD, CAPTAIN,
Conservator of Forests, N.-W. P. and Oudh.

APPENDIX I.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Results of Enumeration of Compartments valued during the working seasons, 1885-86.

Number of Compartment.	Productive area.	*Sál.*									*Asaina.*								
		V.	IV.	III.		II.		I.			V.	IV.	III.		II.		I.		
				Sound.	Unsound.	Sound.	Unsound.	Sound.	Unsound.	Total.			Sound.	Unsound.	Sound.	Unsound.	Sound.	Unsound.	Total.
	Acres.																		
26	1,124	92,929	32,904	3,705	6,185	1,116	3,572	79	1,730	142,225	34,858	10,912	1,420	2,118	386	1,580	73	825	52,172
27	788	42,899	23,407	3,611	6,073	885	4,052	120	2,274	83,421	16,100	14,382	1,421	2,512	141	1,690	14	458	36,118
29	287	20,236	6,721	629	2,159	131	1,397	7	751	32,031	2,067	3,225	603	964	113	719	16	427	8,134
30	140	6,442	3,436	612	318	294	295	120	268	11,685	73	257	113	13	46	11	16	15	544
31	225	37,273	13,095	1,461	190	335	238	208	313	53,113	230	309	153	19	93	34	52	67	957
32	397	36,443	11,208	1,061	2,439	141	1,918	7	942	54,159	993	1,307	486	749	127	813	21	432	4,938
33	567	49,263	15,811	2,448	5,716	352	3,706	42	2,326	70,664	8,797	12,009	1,420	2,309	158	1,397	53	766	26,609
37	224	6,989	2,611	355	610	16	750	5	951	12,287	83	136	138	97	132	137	72	141	936
39	1,268	42,293	22,815	3,694	8,895	716	5,866	92	3,921	87,492	4,992	6,824	1,927	2,095	534	1,717	195	2,241	20,525
Total ...	5,340	3,25,767	132,008	17,576	32,485	3,986	20,999	680	13,576	547,077	68,193	49,361	7,681	10,776	1,730	7,498	522	5,372	1,51,132

APPENDIX I.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Results of Enumeration of Compartments valued during the working seasons, 1885-86—(concluded).

Number of Compartment.	Productive area.	Superior Kokat								Inferior Kokat.								Scrub.								Grand Total.
		V.	IV.	III.		II.		I.		V.	IV.	III.		II.		I.		V.	IV.	III.		II.		I.		
				Sound.	Unsound.	Sound.	Unsound.	Sound.	Unsound.	Total.			Sound.	Unsound.	Sound.	Unsound.	Sound.	Unsound.	Total.			Sound.	Unsound.	Sound.	Unsound.	Sound.	Unsound.	Total.	
	Acres.																									
26 ...	1,124	20,384	12,174	482	1,212	57	359	18	179	34,865	6,154	6,787	850	568	17	180	2	14	14,157	10,625	7,477	96	335	19	8	...	1	18,561	261,960
27 ...	738	9,005	7,054	407	955	29	225	5	73	17,751	3,026	3,518	446	622	38	154	2	28	7,836	8,150	2,818	45	116	...	8	...	...	11,137	156,253
29 ...	267	5,425	3,096	152	437	6	111	...	83	9,310	1,690	691	96	148	6	86	...	21	2,738	2,409	1,260	41	83	1	4	...	...	3,798	56,011
30 ...	140	2,327	2,208	467	110	103	38	11	28	5,292	582	552	117	28	26	9	3	7	1,324	3,087	1,730	32	18	8	8	...	1	4,854	29,699
31 ...	225	13,223	2,865	557	142	69	49	19	32	16,956	1,038	839	189	18	19	16	3	12	1,568	2,776	1,326	125	28	9	4	...	4	11,282	83,876
32 ...	297	9,095	5,275	828	383	95	167	19	122	15,990	2,141	909	261	126	34	90	6	20	3,587	5,199	2,060	141	59	2	7	...	...	7,468	66,142
33 ...	887	13,147	5,259	653	905	50	283	10	178	23,465	9,482	2,154	504	644	17	320	2	65	6,198	9,475	4,125	125	148	3	3	...	1	13,877	141,013
37 ...	224	3,990	3,967	517	550	44	241	6	228	9,645	1,208	506	143	53	14	42	1	27	2,004	7,194	3,685	139	149	4	20	...	5	11,196	36,068
39 ...	1,268	18,798	14,057	533	1,854	260	600	116	517	35,826	1,969	3,292	1,063	882	152	334	23	187	7,872	19,635	10,525	369	538	10	30	3	3	31,023	182,748
Total...	5,340	93,393	58,955	5,696	6 648	713	2,054	269	1,446	169,199	29,298	18,668	3,318	3,091	318	1,171	42	351	47,374	75,870	35,016	1,181	1,474	56	91	3	15	113,206	1,027,790

Kheri, Trans-Sarda :
The 7th July, 1886.

(Sd) A. F. BROUN,
Offg. Depy. Conservator in charge Working Plans.

APPENDIX II.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Annual Plans of Operations, 1885-86.

Budget heads.	Sanctioned plan.	Amount.	Actuals, 1885-86.	How far carried out.
			Pilibhit Division.	
		Rs.	Rs.	
A. I. b.	Fuel operations at Chauk Gybi and Karraia Ghât ...	2,000 16,550	4,738	Only Rs 4,738-3-11 spent on the fuel operations, owing to less forest to work in, and fuel sold on the spot
A. VII. a.	Annual repairs of roads ...	600	504	Rs. 504-2-6 spent on the annual clearing of roads. Dagbeling on one side of cert-in roads was necessary, but could not be taken in hand for want of supervision and funds.
A. VII. b.	Re-roofing and tiling of Mustafabad out-houses.	200	...	Rs 132 12-2 spent on the re-roofing and tiling of Mustafabad out-houses.
	Re-roofing of Nawadia rest-house...	125	...	Rs. 0 8-3 more spent than provided for in annual plan, and Rs. 15-7-9 less spent than the Conservator's sanctioned amount.
	Annual repairs of out-houses and out-offices and rest-houses.	75	518	Done at a cost Rs. 57 3 9.
	Special repairs of 1st class ...	...		
	Rest-house, Mustafabad ...	200	...	Not taken in hand, owing to want of supervision.
	Re-thatching of 3rd class rest-house, Mustafabad.	100		
A. VII. c.	Annual clearing of wells ...	50	20	Rs. 19-10-6 spent on the repairing, clearing, and putting in charcoal in 16 wells.
A. VIII. a.	Ditching ...	100	56	4 miles at Rs. 25 in grant Nos. 2 and 3 not taken in hand from want of supervision.
	Demarcation of Puranpur Forests,	3,000		Rs. 45-13-6 spent on marking out light lines.
				The work taken in hand, but the money could not be charged in the accounts as the lines were incomplete.
A. VIII. c.	Clearing grass on 8 feet broad fire-paths; 24 feet broad grass-cutting along the lines in the closed area.	574		Rs. 62 spent on grass clearing of 8 feet broad paths 20 miles 7 furlongs = @ Rs. 3. Rs. 268-9 9 on 24 feet broad grass-cutting along the lines in the closed area 32 miles 1 furlong, @ Rs. 8-6-3 per mile.
	Fire Conservancy Establishment ...	1,360	1,729	Rs. 660-13-1 spent on the fire-conservancy establishment, owing to fewer watchers kept during January, February, and half of March, on account of heavy rains in those months.
	Extinguishing, burning, and rewards,	100		
	Fire Chauki ...	80		Rs. 149-13-3 spent, the excess expenditure is on accoount of heavy grass which had to be burnt.
				Not taken in hand.
,,	6 Miles of Dagbeling for firing purposes @ Rs. 6.	36	...	14 miles of Dagbeling for firing purposes done @ Rs. 5-12-3 per mile = Rs. 80-10-9.
	10 miles of 8 feet broad fire-paths @ Rs. 40 per mile.	400	...	5 miles 1½ furlongs @ Rs. 40 per mile done.
			Bhira Sub-division.	
A. I. b.	Carriage and collection of bulb grass.	...	412	Not proposed in the annual plan; Rs. 411-13-9 were expended.
A. VII. a.	Repairs of roads 68 miles 3 furlongs and bridges.	684	...	53 miles 2 furlongs of roadway were repaired at a cost of Rs. 150-4-6, the remaining 15 miles 1 furlong being charged to A. VIII c., the latter having come within the fire-protected area. Rs. 24-7-0 were spent in repairs of bridges.
	Road from Kishanpur-Bhira road to the junction of the Bhira, Kokra and Singha, Palhanapur roads (8 miles 1 furlong) of which 3 miles 7 furlongs @ Rs. 80 = Rs 310 were to be made in 1885-86.	310	210	Commenced but not completed.
	Road from Kishanpur to Rai Khera, 1 mile 4 furlongs.	...	...	Not proposed in the annual plan; Rs. 42-8-0 were spent.
A. VII. b.	Repairs of 8 rest-houses @ Rs 6 each,	48		Rs. 55-7-6 were spent on this work besides cost of repairs of the Bhira rest-house the accounts of which were not settled before the close of the financial year 1885-86.
	Special repairs of the Madhu 3rd class rest-house.	104		
	Re-thatching of the Palhanapur 3rd class rest-house.		513	Rs. 143-10-0 were expended on this work; there was not sufficient money available under this head at the time when the plan of works was framed, and that no further provision was made.
	Re-thatching of the Morena 3rd class rest-house.			Not proposed in the working plan, Rs. 126-7-0 were spent.
				House was burnt down and repaired, Rs 140-12-0.
A. VII. c.	Annual clearing of 17 wells @ Rs 3,	51		Rs. 23-7-0 spent on this work.
	Well between Kokra and Bhira at the junction of the Marha, Palhanapur and Bhira-Kokra roads, 3' diameter.	240	23	Not taken in hand on account of financial pressure.
A. VIII. a.	Ditching 40 miles @ Rs. 25 ...	1,000	441	Only 17 miles 5 furlongs of ditch were dug on account of financial pressure at a cost of Rs. 440 10-0.
A. VIII c.	Repairs of fire lines 67 miles 3 furlongs @ Rs. 10.	674	1,550	73 miles of fire lines cleared at a cost of Rs. 384-12-9 in addition to roadway transferred from A. VIIa.
	Four fire-chaukis @ Rs. 30 ...	120	...	Only one chauki was built at a cost of Rs. 25, the others in course of construction.
	Fire-lines 10 miles @ Rs. 40 per mile.	400	...	Not taken in hand as it cannot be ascertained where Mr. Ponsonby intended making it.
	Establishment, Rs. 948 ...	948	...	Only Rs. 944 1-9 were spent.

APPENDIX II.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Annual Plan of Operations, 1885-86—(continued.)

Budget heads	Sanctioned plan	Amount	Actuals, 1885 86	How far carried out
	Behra Sub division—(*concluded*)			
	Grass cutting for burning purposes parallel with 18 miles and 4 furlongs of Dagbolung @ Rs 5 per mile	92	...	Rs 92-15-0 were expended on this work
	Pay of cookies on grass-burning at night, rewards, &c.	150	...	Rs 157-0 10 spent on this work
	Miscellaneous as extinguishing fires, &c	116	...	This work cost only Rs 40-7-0.
	Kheri Division			
A. I a.	Felling and logging 2,500 selected sál trees, carting to depôt 3,500 logs, rafting 3,500 logs to Bahraighát	..	2,49,343	4,010 logs carted to depôt 3,030 logs rafted to Bahraighat
	Selecting, marking, and felling sál and asaina trees for sleepers, sawing 100 000 6′×8″×4½ sál sleepers and 100 000 asaina sleepers of the same size	...	...	One hundred thirty eight thousand three hundred and thirty-four sál sleepers were sawn, of which were passed 113,677 and 24,657 rejected; 158,586 asaina sleepers were sawn, 122,068 passed, and 36,918 rejected; the excess asaina sawn, was to meet a subsequent order for 50,000 sleepers, rejections are not paid for, 308 large sleepers 14 ×8″×6″ were sawn for Bahraighát
	Carting to the Korala river and sending down on boats to Khairighát and then carting across to Nanpara 30 000 sleepers to Bahraich 40,000, and sending down on boats to Fyzabad 10,000 sleepers for the Nanpara extension Bengal, North-West Railway. Carting to Sháhjahánpur and then sending on by rail to Lucknow, 90 signal posts, Lucknow-Sitapur Railway, carting to Sitapur Serarau, Oel, &c., 100,000 asaina sleepers sent.	...	...	The following has been sent off up to the 31st March and carting and rafting will continue up to the setting in of the rains — Carted to Korala ... ... 63,193 Rafted to Khairighát ... . 60 330 Carted to Nanpára . ... 25,778 Carted to Bahraich . .. ... 30,165 Rafted to Fyzabad ... ... 6,887 Carted to Serarau ... ... 10,098 Carted to Oel ... ... 10,163 Sháhjahánpur signal posts 90
A VII a.b c.	Clearing and repairing all existing roads and lines including the Nepal boundary line.	...	4,999	All lines and roads in use for traffic and Nepal boundary have been cleared.
A. VII. b	Constructing a 1st class rest-house at Sallookapur	...	825	Finished
	Collecting of material and the constructing of a 2nd class rest house at Chung nala	...		Done and foundation filled in
	Annual repairs to all other existing buildings	...	.	Done
A VII c	Sinking and unshing 8′ diameter well at Dudua and 3 other wells on outskirts of fire-protected blocks	...	500	Eight feet diameter well at Dudua sunk 4′, nothing could be done to the others owing to expenses having been cut down.
A VIII c	Protecting 64½ square miles of forest closed to fire and cattle grazing in the Newal-Khar and Khairigarh sub division	...	2,698	Excepting 330 acres, all saved up to date of writing this report
	Bahraighát Division			
A 1 a	Timber operations ...	41,185	...	Three thousand and thirty logs were landed in the depôt by means of steam plough engines at a cost of Rs 126-0 0 or an average of 1 anna 5 pies per log The balance of indents at commencement of the year—
				c ft.
		...	...	Was 27,889
				Received during the year 39,229
				Total ... 67,068
		...	.	Executed and supplied ... ... 42,240 ...
				Cancelled 11,445 53,685
				Total ... 53,685 .
				Balance 13,383
		...	...	Ten thousand seven hundred and sixty four sleepers were sawn, two new tiled sheds were made, necessary repairs to existing roads and buildings at Bahraighát were done. Rs
				Total cost of "A" Conservancy and works was . 30,202
		...	...	Do do "B" Establishment 4,441
				Total ... 34,643

APPENDIX A

Forest Department, North-Western Provinces and Oudh, Oudh Circle

Annual Plan of Operations, 1885-86—(continued).

Budget head	Sanctioned plan.	Amount.	Actuals 1885 86	How far carried out
		Rs.	Rs	
	Bahraich Division			
A 1 *a.*	To cutting and carting 400 logs of sorts into Bahraich from the Sohelwa forests	3,000	378	Not taken in hand owing to the curtailment of expenditure not yielding immediate revenue
A 1 *b*	Firewood and charcoal removed from the forests by Government Agency	20,000	9 085	Done Important works of improvement fellings were undertaken in the Nishangara block of the Motipur sub division 510 acres were approximately taken in hand which yielded stacked fuel 757,000 cubic feet=390,000 maunds c ft Logs of sál 806 ... = 24,669 Poles, &c, 14,785 ... = 136,089
A VII *a*	Roads and Bridges ..	6,150	5,240	Done Two hundred and fifty five miles of road work was done, and 12 culverts were repaired 11 miles and 6 furlongs of roads widened and 16 miles and 1 furlong of lines made
A. VII *b*	Buildings	4,200	7,606	Two 1st class rest houses (Gulra and Bankatwa) completed Out houses at Nishangara completed, fire-places and pucca flooring, &c, were made in the Bhartha and Murtha rest houses; but the work of alterations in the Kakardari rest house was not taken in hand for want of funds, necessary repairs to existing building were done
A VII *c*	Other works ...	1,400	616	Cleaning of existing wells, wherever necessary, was done at a cost of Rs 21 2 6 Two wells at Hasuha and Nipal boundary still incomplete, owing to the scarcity of labor on account of other urgent works going on in the Division The Hasuha well should be ready by the advent of the rains, the other well not till after the rains The work of construction of two new wells at Gandhi and Mahri not taken in hand for want of funds
A VIII *a*	Demarcation	1,000	132	The work of renewing 25 miles of boundary ditching was not taken in hand for want of funds But, on the other hand, the work on the widening out of the Nipal boundary at the expense of the Deputy Commissioner of Bahraich has been done to the extent of 33 miles at a cost of Rs 320 11 0 and 5 furlongs of boundary ditching were renewed, where subtending the ground of Bankatwa rest house, at a cost of Rs 29 The above works were not mentioned in the original working plan
A VIII *d*	Plantations ...	500	158	Not done Savings in view of non urgent works But, on the other hand, 6,156 pits of 2 feet in depth and 2 feet across were dug for the reception of sál seeds The pits were sown alternately with sál ebony, and mahua seed
A VIII *e*	To protect 70 square miles of forest from fire	5 000	2,807	About 180 square miles are being protected, as it appeared urgent to protect for the future, the whole of the Bahraich sál forests so far as it could be done with any probability of success
A VIII *f*	To cut all creepers in the Nishangara closed forests	1 500	1,033	This has been done over an area of 16 square miles, only leaving some 20 square miles to be worked over The cost was Rs 391-6 3, fund not available for more work being done on creeper cutting as some 542 notices on wooden boards were nailed up on trees at a cost of Rs 229 1 6, and 6,000 printed notices were procured from Newal Kishore Press at a cost of Rs 102 12 0; this was not provided in the original plan of operations
	Ditto ditto in the Chakia forests	..	..	Not done for want of funds
	Exclusion of cattle from the closed forests by means of an establishment	.	..	This was done at a cost of Rs 799 1 7 and some 1,602 cattle were pounded Besides the above, maps were hung up in each rest house on boards at a cost of Rs 30 10 0 Camping grounds were cleared at a cost of Rs 259 15 3; this was not provided for in the plan of operations Seventy five mangoes and limes were planted in the Bankatwa compound at a cost of Rs 118 12 9
A IX *c.*	Miscellaneous No detail given in the original plan of operations	200	504	Railings round Bankatwa rest house was done at a cost of Rs 174 1 10; clearing of grounds near 8 rest houses at a cost of Rs 482 6 6 and about 1 mile and 3 furlongs of ditching was done at a cost of Rs 64 6-0
	Gonda Division			
A a *A*	Timber removed by Government agency	1,000	202	No departmental fellings.
A I *B*	Fuel operations		19	
A I *E*	Grass and other minor produce ..		281	Extract of sal and saama bark was prepared
A II	Timber and other produce removed from forests by consumers and purchasers	712	926	Temporary establishment according to sanctioned scale
A III	Confiscated drift and waif wood	64	65	Ditto ditto ditto
A VI *b*	Feed and keep of cattle	600	502	Ditto ditto ditto

APPENDIX II

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Annual Plan of Operations, 1885-86—(continued).

Budget-head	Sanctioned plan	Amount.	Actuals 1885 86	How far carried out
	GONDA DIVISION—(*concluded*)	Rs.	Rs	
A VI *c*	Stores, tools and plant .	50	94	Plane table and chains purchased
A VII *a*	Roads and bridges .. .	1,000	868	No new roads were made, the money was used for buildings.
A VII *b*	Buildings	1 000	1,244	Materials collected at Munsurwa, Bhagwanpur and Jalpalwa
A VII *c*	Other works ...	300		Well also to be made at Barahwa, near site of proposed rest house not taken in hand
A VIII *a*,	Demarcation	500	344	Pillars repaired and renewed in Nawabganj Sub division
A VIII *d*	Plantation ..	50	4	
A VIII *e*	Protection from fire ...	500	254	As usual or a smaller area to be protected more carefully with the same expenditure
A VIII *f*	Other works ...	300	227	
A IX *a*	Refunds .	50		
A IX *b*	Law charges ...	50		
A IX *c*	Other charges ...	100	232	
	GORAKHPUR DIVISION.			
A I. *a*	Sleeper operations ...	1,500	28,246	Done—Temporary establishment ... 60 0 0
	Increase	60,000		Sleeper operations ... 26,898 11 8
		61,500		Carting ballas 1,286 14 11
				Total .. 28,245 10 7
A I *b*.	Fuel operations . .	500	1,122	Done Rafting fire wood 76 14 9
	Increase	1,200		Carting ditto 316 7 3
		1,700		Stacking ditto .. . 652 9 0
				Stacking chaulas 16 15 0
				Carting ditto ... 50 5 4
				Total . 1,122 3 4
A II	Timber and other produce removed from Forests by consumers and purchasers	1,500	1,682	Establishment 1,313 9 10
				Contingencies 368 5 8
				Total . 1,681 15 6
A, VI *b*.	Feed and keep of cattle	800	620	Done—Temporary establishment 108 0 0
	Decrease	100		Feed and repair of gear 511 11 7
		700		619 11 7
A. VI. *c*.	Stores, tools and plant ...	300	224	Stores from Roorkee 208 11 0
	Decrease	300		Three office boxes ... 15 1 6
				Two pals and 1 hill tent not purchased
				223 12 6
A, VII *a*	Roads and bridges	1,500	490	Domohani bridge on the Rohin . 61 7 7
	Decrease	1,000		
		500		
	Repairs to old road 300			Done—Clearing Sakhui road ... 429 0 8
				490 8 8
	Taking out stump on the Bhartbaise roads 300			Not done for want of supervision and funds, ...
	Ramgarh and Chauk 30 feet road 300			Ditto ditto ditto, ...
A.VII. *b*	Buildings ..	1,500	2,012	Banspar out-offices . 329 8 0
	Decrease ...	500		Repairs to Ramgarh rest house and construction of godown and cook house 794 6 1
		1,000		
	Nichlaul and Aurahia... ...			
	Rest house 800			Repairs to Sakhui rest house 28 9 10
	Repairs to old rest-house 300			Repairs to Pakri rest house 44 12 3
	Ramgarh new rest house, out-office ... 400			Construction of Nichlaul rest hous 1,444 8 6
				Repairs to Chaumukha rest-houses ... 70 10 7
				Repairs to Chauk rest house . 22 0 9
				Construction of Aurahia rest house .. 177 11 3
				2,011 14 3
A. VII. *c*.	Other works	500	23	
	Decrease .	200		
		300		
	Repairs to old rest house 100			Repairs to Ramgarh rest house well ... 22 12 7
	Constructions of Nichlaul and Aurahia wells, 400			Not done

APPENDIX II.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE

Annual Plan of Operations, 1885-86.—(concluded).

Budget.	Sanctioned plan.	Amount.	Actuals, 1885 86	How far carried out.			
				GORAKHPUR DIVISION—(*concluded*)	Rs	a.	p.
		Rs.	Rs				
A. VIII *a*	Demarcation ...	1,000	2,321	Done at a cost of rupees ...	2,321	5	7
A VIII *b*	Compensation	150		Have come in the financial year.			
A VIII *c*	Surveys and working plan	20		Not done			
A VIII *d*	Plantation	3,000	4,086	Ramgarh forest plantation	600	11	10
	Decrease	500		Sonari plantation and extension, 50 acres ...	550	14	11
		2,500		Sukhui plantation, 450 acres	3,834	3	10
					4,985	14	7
A. VIII *e*	Protection from fire	1,500	1,786	Fire watchers kept ...	511	8	1
				Clearing fire-lines	1,274	11	8
					1,786	3	9
A VIII *f*	Other works	2,500	2,441	Thinning Ramgarh Forests	850	9	0
	Decrease	100		Watering trees in Ramgarh compound ...	112	15	9
				Creeper cutting ditto ...	8	5	0
		2,400		Temporary establishment ...	1,469	0	3
					2,440	14	0
A. IX *b*	Law charges	500	201				
	Decrease	300		Done at a cost of rupees	200	14	0
		200					
A IX *c.*	Other charges	100	81	Contingencies and carriage of machinery cost,	81	7	0
	Increase by mistake	300					
		400					

NAINI TAL:
The 1st August, 1886

E WOOD, CAPTAIN,
Conservator of Forests, N.-W. P and Oudh, Oudh Circle.

APPENDIX III.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Abstract showing existing roads and fire lines to end of March, 1886.

		Pilibhit.		*Bhira.*		*Kheri.*		*Bahraich.*		*Gonda.*		*Gorakhpur.*		*Total.*	
		Mile.	Furlong	Mile	Furlong	Mile.	Furlong.	Mile.	Furlong	Mile	Furlong	Mile.	Furlong.	Mile.	Furlong.
Main roads 100′ wide	...	...	...	...	...	...	...	...	...	9	½	...	...	9	½
,, ,, 50′ ,,	...	...	...	...	...	...	...	...	...	...	...	7	...	7	...
,, ,, 45′ ,,	...	...	...	...	...	...	...	23	1	...	...	...	...	23	1
,, ,, 40′ ,,	...	...	...	...	...	...	...	...	...	23	7	...	...	23	7
,, ,, 30′ ,,	...	...	...	6	4	...	...	54	3	...	...	13	4	74	3
,, ,, 20′ to 40′ wide	...	...	...	11	6	...	...	...	...	...	...	...	...	11	6
,, ,, 20′ wide	...	...	...	...	...	17	4	32	1	...	...	8	...	57	5
Cart ,, 15′ ,,	...	117	1	87	4	194	3½	232	2	21	...	16	...	668	2½
,, ,, 10′ ,,	...	...	...	...	...	28	...	...	...	...	...	...	...	28	...
Path ,, 10′ ,,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
,, ,, 8′ ,,	...	35	...	39	4	...	...	...	...	...	...	...	...	74	4
Export ,, 6′ ,,	...	3	7	...	...	...	...	...	...	...	...	...	...	3	7
Total ...	1885-86 ...	156	...	145	2	239	7½	341	7	53	7½	44	4	981	4
	1884-85 ...	147	1	143	6	239	7½	346	1½	61	½	43	...	981	½
	More ...	8	7	1	4	...	...	...	4	...	2½	...	7	1	1
	Less ...	...	...	...	...	...	...	4	...	7	...	1	...	11	7
												Actual diff-rence		more	3½

In the figures of 1884-85 the distance of Nepal boundary lines in Bahraich and Gonda were included in the road register, but as these lines are not made for traffic they have been excluded from this statement, and by allowing the figures of last year 1884-85 to stand, there appears a deficit of 4 miles 2½ furlongs in Bahraich and 7 miles 1 furlong in Gonda, but actually there is no deficit, as really 11 miles 6½ furlongs of new roads were made in Bahraich or a total of new roads made in the Circle comes to 23 miles 5½ furlongs.

Naini Tal:
The 1st August, 1886.

R. WOOD, Captain,
Conservator of Forests, N. W. P. and Oudh, Oudh Circle.

APPENDIX IV.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

List of Buildings.

	Pilibhit.	Bhira.	Kheri.	Bahramghát.	Bahraich.	Gonda.	Gorakhpur.	Total.	Remarks.
First class double storied rest house	1	2	6	...	3	1	...	13	
,, single ,, ,, ...	...	...	1	2	5	...	1	9	
Second class double ,, ...	...	...	4	...	...	...	...	4	
,, single ,, ,, ...	...	...	...	...	...	...	8	8	
Third class double ,, ,, ...	7	6	...	...	...	...	1	14	
,, single ,, ,, ...	...	...	...	...	9	2	...	11	
Total	8	8	11	2	17	3	10	59	
Total up to 1884-85 ...	8	8	10	2	15	3	9	55	
During 1885-86	...	...	1	...	2	...	1	4	

Naini Tal:
The 12th August, 1886.

E. WOOD Captain,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

APPENDIX V

Forest Department, North-Western Provinces and Oudh, Oudh Circle

Statement of Forest produce given free to the privileged villagers during the year 1885-86.

Divisions	Description of Forest produce given free	Number or quantity		Amount	Remarks
				Rs.	
Pilibhit	Estimated number of trees given free in pargana Puranpur	Number	20,000	10,000	
	Total		20 000	10 000	
Bhira	Poles, &c	Cubic feet	29,42	486	
	Firewood	,,	3 ,606	60	
	Minor produce	,,		168	
	Total		61 027	720	
Kheri	Saplings and ridge poles	Cartloads	18,857	18,211	
	Firewood	,,	7,809	976	
	Cows	Number	5,381	672	Tharua cattle free grazing
	Grazing buffaloes	,,	1,081	270	
	Minor produce	Head-loads	25,788	6 553	
	Total	Number	6 462	26,682	
		Head load	25 788		
		Cartload	26 662		
Bahraich	Ridge poles, koros, &c	Cubic feet	9 85,824	24,703	
		Pulas	19 59 147	3,919	
	Minor produce	Head load	64 686	804	
	Total	Cubic feet	9,85,824	29,516	
		Head-load	64 686		
		Pulas	19 59,147		
Gonda	Unreserved posts &c	Number	38 052	4,274	
	Firewood	Head-load	46,005		
	Minor produce	Cartload	753	274	
	Elephant fodder	Head-load	3 273	204	For the Maharani of Balrampur's Elephants
	Santha and long grass, &c	,,	28,968	203	
	Total	Number	38,052	4,955	
		Cartload	753		
		Head l ad	78,246		
	Grand Total	Number	64 514	71,873	
		Pulas	1,959 147		
		Cubic feet	1,044,851		
		Head-load	168,240		
		Cartload	27,415		

Besides the above the following free grants of timber were made to District Officers for houses and roads during the year 1885-86:—

Kheri	Sál timber	Cubic feet	50	25	These free grants were made to the Deputy Commissioner of Kheri for making a small rest house a Aidalabad for Government officials
	Sál ballis poles	Number	157	157	
	Total	Cubic feet	50		
		Number	157	182	
Gonda	Asaina timber	Cubic feet	2 000	500	For district roads
	Total	Cubic feet	2 000	500	
Gorakhpur	Sál ballas or beams	Number	2	1	Given to the District Officer for repairs of Nichloul out posts
	Sál koros, rafters		75	30	
	Total		77	31	
	Grand Total	Number	234	713	
		Cubic feet	2,050		

Naini Tal;
The 12th August, 1886

E WOOD, Captain,
Conservator of Forests N W P and Oudh, Oudh Circle.

APPENDIX VI.

Forest Department, Oudh Circle.

	Length.	Breadth.	*Sal.* I.	*Sal.* II.	*Sal.* III.	*Sal.* IV.	*Asuna.* I.	*Asuna.* II.	*Asuna.* III.	*Asuna.* IV.	*Miscellaneous.* I.	*Miscellaneous.* III.	*Miscellaneous.* III.	*Miscellaneous.* IV.	Remarks.
Mussap Khamb line, 1 mile	5,280	100	26	24	109	319	4	16	55	223	6	...	46	252	Appendix II., Oudh Forest Report, 1867-68, Item 14.
Main Gaurighát line about 2¼ miles ...	5,280	100	39	86	125	153	8	30	43	23	3	12	68	259	Do. do., Items 1, 2 and 3.
	2,400	100	22	38	56	55	4	13	45	65	1	6	15	54	
	5,280	100	43	76	120	168	6	8	19	3	4	17	98	372	
No. 1 Sobeli line, 2 miles	5 280	50	37	69	120	442	9	27	45	181	2	21	47	524	Appendix III., Oudh Forest Report for 1868-69.
	5,280	50	37	29	31	368	7	40	42	161	2	17	79	691	
No. 1 Mohan line, 2 miles	5,280	50	25	40	69	448	4	15	33	118	1	7	34	142	Appendix VI., Oudh Forest Report for 1869-70.
Main Bhadi Tal lines, 2 miles ...	5,280	50	32	67	114	536	5	11	17	99	3	12	56	284	
	5,280	100	40	64	121	309	15	28	47	7	4	2	38	734	
	5,280	100	40	57	94	165	33	21	17	14	3	6	53	819	
Total ...	...	...	341	550	989	2,983	95	209	363	892	29	100	534	4 041	
	9,036 acres.	...	3·7	6·1	10·9	33·0	1·0	2·3	4·0	9·8	0·3	1 1	5·9	44 7	

NAINI TAL:
The 12th August, 1886.

F. WOOD, CAPTAIN,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

No. 99 OF 1886-87.

FROM

W. R. FISHER, ESQ.,

Offg. Conservator of Forests, School Circle,

N.-W. Provinces and Oudh,

To

THE SECY. TO GOVT., N.-W. P. AND OUDH,

Revenue (Forests) Department.

Dated Dehra Dún, the 6th October, 1886.

SIR,

I HAVE the honor to submit herewith my report on the administration of the School Circle for the year 1885-86, and to regret the delay that has transpired in its submission.

2. The manuscript was transmitted to the Superintendent, Government Press, on the 9th of August, 1886, but owing to the orders of Government to reduce the size of the report, I was obliged to call for a second proof before it could be published.

3. I regret that I have been unable to reduce the size of the report as much as I intended; but the body of the report only contains 46 pages this year as compared with 65 pages last year, and I hope next year to reduce its size still further.

I have the honor to be,

SIR,

Your most obedient servant,

W. R. FISHER,

Offg. Conservator of Forests, School Circle,

N.-W. Provinces and Oudh.

SCHOOL CIRCLE REPORT.

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N.-W. PROVINCES AND OUDH.

SCHOOL CIRCLE.

ANNUAL PROGRESS REPORT

OF

FOREST ADMINISTRATION

FOR THE YEAR 1885 86.

By Mr W. R. Fisher, B.A., Officiating Conservator of Forests, School Circle.

Introduction.

The leading events in the year's work have been:—

(1) The demarcation and valuation by Mr. Hearle of the newly-acquired leased deodar forests in Tehri-Garhwál, which have been found to contain 81,182 deodar trees over 2 feet in diameter.

(2) The large extension of fire-protected forests, 313,274 acres having been successfully protected this year as against 227,706 acres in 1884-85, while the cost for the Circle has been reduced from 8·8 to 5·5 pies per acre. The results in Dehra Dún, where only 140 acres have been burned and the area under protection increased by 44,779 acres, whilst the cost per acre has been almost halved, is especially creditable to Mr. Smythies and his range officers.

(3) The improvement in the financial result of the Circle, which for the last five years has stood as follows:—

		Rs.
	Deficit.	
1881-82		1,35,902
1882-83		48,699
1883-84		15,213
	Surplus.	
1884-85		95,369
1885-86		1,29,806

Staff of officers.

2. Mr. W. R. Fisher, B.A., has retained officiating charge of the Circle, as well as of the Forest School as Officiating Director, throughout the year, during Major Bailey's continued absence since March, 1884, on deputation to the charge of the English students at the Nancy Forest School.

Mr. E. McA. Moir remained in charge of the Jaunsár Division till the 24th October, 1885, when his services were transferred temporarily to the Government of India to organize forest conservancy in the Joypur State. He has written a report on the forests of the State, which has been published, and proceeded on furlough on the 20th March, 1886.

Mr. E. E. Fernandez's name is mentioned here, as, although not an officer of the Circle, he has during the year brought out a working plan of the Mundáli deodar forest in Jaunsár and was engaged on the working plan of the Dehra Dún forests at the close of the year. He also drew up, at my request, a valuable memorandum comparing the fire-conservancy arrangements of the Circle with those of the Central

Provinces, and showing how the cost of our work might be greatly reduced; and, in charge of the students, has executed several useful works in the Dehra Dún and Saháranpur forests.

Mr. A. Smythies, B.A., has continued to officiate as instructor at the Forest School in place of Dr. F. H. Warth, and has held charge of the Dehra Dún Division throughout the year, except during his absence on privilege leave from the 26th May to the 3rd of July, when Mr. M. H. Clifford acted for him.

Mr. N. Hearle rejoined from the Central Circle in April, 1885, and undertook the demarcation and valuation of the Tehri-Garhwál leased forests in the Tons and Púbar valleys, for which he is preparing a working plan. This was interrupted from 10th July to 20th October by his deputation to the Forest School, where he undertook the course of instruction in systematic botany. He assumed charge of the Jaunsár Division from Mr. Moir on the 24th October, 1885, but continued the work in the Tehri-Garhwál forests until further progress was stopped in December by the snow. Mr. Hearle continued to hold charge of the Jaunsár Division till the 11th March, 1886, when he was deputed to the Central Circle to complete the working plans of Eastern Kumaun and of the Ganges Division, and Mr. A. G. Hobart-Hampden assumed charge of the Jaunsár Division.

Mr. Broun retained charge of the Saháranpur Division from the commencement of the year till the 28th October, 1885, when he was deputed to the Direction Division of the Oudh Circle, to undertake the valuation of the Kheri forests and compile a working plan for their management.

Mr. M. H. Clifford was attached to the Dehra Dún Division till the 28th October, 1885, when he assumed charge of the Saháranpur Division from Mr. Broun and remained in charge of it till the end of the year.

Mr. A. G. Hobart-Hampden was attached to the Jaunsár Division till the 10th January, 1886, except from the 16th July to the 17th October, 1885, when he was absent on privilege leave. During this period he was in charge of the Deota, Kotigád, and Deogarh ranges, which were grouped to form the Tons sub-division, and of the departmental sleeper works, until they were interrupted by the snow. Mr. Hobart-Hampden was attached to the Dehra Dún Division from the 10th January to the 11th March, when he assumed charge of the Jaunsár Division from Mr. Hearle.

Babu Karuna Nidhán Mukerji, Sub-Assistant Conservator of Forests, was attached to the Dehra Dún Division from his return from privilege leave on the 26th May to the end of the year. He was specially placed by Mr. Smythies in charge of the Ganges river drift operations, and since early in January he has been in charge of the Tehri leased forests attached to the Dehra Dún Division as well.

The present flourishing financial condition of the Circle and the large extension of successful fire-conservancy, especially in the Dehra Dún Division, is the best testimony to the good work that is being done by the divisional officers and their assistants.

The staff of officers in the Circle at the close of the year stood thus:—

Mr. W. R. Fisher, B.A.	... Officiating Conservator and Director of Forest School.
Mr. A. Smythies, B.A.	... Officiating Instructor, Forest School, in charge of the Dehra Dún Division.
Mr. M. H. Clifford	... Officiating Assistant Conservator of Forests, 1st grade, in charge of the Saháranpur Division.
Mr. A. G. Hobart-Hampden	... Officiating Assistant Conservator of Forests, 1st grade, in charge of the Jaunsár Division.
Babu Karuna Nidhán Mukerji...	Sub-Assistant Conservator of Forests, 2nd grade, attached to the Dehra Dún Division.

3. The following officers of the Circle or province took a part in the instruction at the Forest School as follows :—

Mr. W. R. Fisher, B.A.	...	Physiological and Morphological Botany.
Mr. A. Smythies, B.A.	...	Physical Science for 1st and 2nd years' Ranger's classes.
Mr. N. Hearle	...	Systematic Botany.
Mr. A. F. Broun	...	Forest Law and part of the course of Sylviculture.
Mr. M. H. Clifford	...	Diseases and injuries of plants ; Building and Road-making.
Forest Ranger Har Sarúp	...	Assisted in the instruction of the vernacular class.

4. Quarters for 32 students in the Forest School compound have been completed by the Executive Engineer, Meerut Provincial Division, and materials have been collected for the remaining proposed 32 quarters. It will be a great boon to the Forest School when all the buildings are completed, and as rent is to be charged to the students, which may be estimated to produce Rs. 1,000 per annum for the Local Government, the outlay will not be unremunerative.

Record of reserves.

5. The record of reserves is still pending for all the divisions, and cannot be undertaken unless a special officer be made available for the work throughout the dry season.

The Divisions.

6. *Dehra Dún.*—The main operations in the Dehra Dún Division were as follows during the year :—

Inspection of the leased Tehri-Garhwál forests attached to the Dehra Dún Division, by the Conservator, who has submitted for the orders of Government proposals for their demarcation and management.

Sixteen thousand four hundred and forty sál and 3,256 sain trees were sold by public auction in August, 1885 and realized Rs 41,673, or about Rs. 2-2-0 per tree, which, as most of the trees sold are inferior, frequently rotten at the base, and of small dimensions, is as much as can be expected.

The following was the result of the auction of leases as compared with the average of the last four years :—

	1885-86.	Average of the last four years.
	Rs.	Rs.
Dry fallen wood, bamboos, and minor produce ..	7,865	10,814
Limestone, including drift-wood ...	3,633	2,795
Hides	200	460
Semla gum	130	376
Honey and wax	80	35
Total ...	11,858	14,511

This shows a falling off of Rs. 2,653, but no standing fallen wood is now included, as was the case in former years.

The following timber works were undertaken by departmental agency :—

Supply of 1,500 sál ballas and 13,000 kukat tors, ballis, and ballas to the Canal Department, and the collection and sale of drift-timber on the Ganges river.

Fifteen miles of new roads were made at a cost of Rs. 1,049 and 304 miles repaired at a cost of Rs. 2,342.

Climbers were cut over an area of 6,316 acres.

Improvement fellings were made by cutting back badly-grown poles and saplings on the site of the previous year's fellings.

As regards the improvements called for and noted in last year's report, proposals for the control of the timber floating on the Ganges river have been submitted for the approval of Government, and the rules have been made more favourable to

the Forest Department by G O. No. $\frac{410F}{129\ 16}$, dated 26th June, 1885, by their extension to Garhmuktesar on the Ganges, and by alteration of the former rule, which formerly exempted all timber, except sál, sissu, deodar, and tún, exceeding 2 feet in girth and 4 feet in length, but which now only exempts headloads of drift-timber and pieces not exceeding 6 feet in length and 2 feet in girth, from the operation of the rule on both the Ganges and Jumna rivers, and declares that all unclaimed drift-timber in certain areas is the property of Government.

The working plan of the forests is not yet completed.

An area of 45,386 acres has been added to that already protected from fire, raising it to 129,960 acres, while the cost per acre has gone down from 12 to 6 3 pies, and it is proposed next year to extend fire-conservancy to all the sál forests in the Dún. Mr Smythies reports that a cheaper system of fire-conservancy and of labour has been introduced by the employment of villagers, who work better than the Garhwali coolies.

7. *Sañdranpur Division.*—The flowering of the bamboos is proceeding westwards, and the dead bamboos in the Ráni and Rauli blocks were sold by rawannahs, yielding Rs 5,017.

The leases of minor produce in all the blocks of the division, except Rauli and the Ganges islands, produced Rs 19,411 as against Rs. 16,435, the average of the last four years The whole increase is due to a larger price obtained for bamboos, whilst there was a falling off under IIa., due to standing wood being no longer included.

Improvement fellings were carried on in compartments 1 and 2 of the Lakarkót block, and there can be no question that the removal of badly-shaped and inferior timber is very beneficial to the straight sál and other poles which are left standing

The Hardwár-Khára road was improved and a pucka chauki designed by Mr. Holme, Assistant Engineer, was built at Mohand at a cost of Rs. 887.

The area attempted to be protected from fire has been increased from 66,826 to 103,006 acres, and though there has been, unfortunately, a large area burned, it is partly owing to Mr Clifford's having inferior men in charge of his ranges, as the Conservator is assured that Mr Clifford himself has taken great care in the matter, though some of the fire lines should have been burned earlier

As regards improvements called for, the following may be noted:—

(1) Improved chaukis for forest-guards

(2) A rest-house for the divisional officer at Kasúmri, in the western range, as the heat in the Siwáliks in tents in May and June is excessive.

(3) The boundary still needs sharply defining in places, and masonry pillars to be erected and numbered.

(4) A valuation of the standing crops is required, so that the district officer may be able to meet indents for standing timber without fear of impoverishing his forest.

8 *Jaunsár Division.*—The valuation and demarcation of the leased Tehri-Garhwal forests have been already referred to. The Dharagád working plan has been published by Mr Fernandez, but the final orders of Government on it have not yet been issued pending a further report by the Conservator

The Shila deodar forest in the Taróch State, which was estimated by Mr J. Marten to contain 30,000 fellable mature deodar, was inspected by the Conservator and Mr Moir last year, and a proposal to lease it in perpetuity for Rs 5,000 per annum was made to the Panjáb Government, the Rana, however, prefers to manage his forest himself, and stated that he would not allow any contractor into his forests, but preserve the timber for his people, but that he would sell 5,000 sleepers per annum to the Forest Department, if required to do so.

This was merely diplomatic, as he has this year sold, at rates varying between Rs. 7-8-0 to Rs. 8-8-0, 9,300 trees calculated to yield 4,65,000 sleepers to various contractors. The railway companies may therefore expect to get a quantity of cheap sleepers from this forest, for the next few years; after which, it will subside into the usual state of ruined private forests, unless it be protected from fire and excessive grazing and artificial plantations started to replace the felled trees.

The fuel indents from the Commissariat have been complied with as usual. 1,437 deodar trees have been felled in the Deota forest and 213 in Raiengarh forest and yielded 44,311 metre-gauge sleepers; and 53,155, including the balance of last year's sleepers, reached Dákhpathar. Fifty thousand one hundred and sixty sleepers were rafted on the Jumna after being passed by an Assistant Engineer at Dákhpathar, but did not reach Delhi before the end of the year, although full payment was made by the Bombay, Baroda, and Central India Railway.

One thousand and one green and one hundred and twelve dry standing deodar trees were sold for Rs. 13,920 to Hari Das, contractor, *viz.*, 800 in Tehri-Garhwál at Rs. 12 and 1 at Rs. 24 per tree and 201 green trees in Basháhr at Rs. 16-9-0, besides dead wood for Rs. 967; and Government will take over at Rs. 1-2-0 each all the sleepers from this wood which may be accepted by the Railway Engineer at Dákhpathar.

There has been a falling off in the sale of chir trees, only 1,489 trees having been sold for Rs. 6,085, as against 2,972 for Rs. 11,860 last year.

An agreement has been made with the owner of the land at Dákhpathar and Gangbhewa for a twenty-years' lease of the depôts at these places, and the formal sanction of Government to the lease will be applied for.

At the annual migration of the Gujars' buffaloes in May, 1885, the Basháhris rose and drove them out of the country, and are said to have sacrificed and eaten a buffalo and a Gujar lad as a propitiation to the goddess of small-pox, which had been raging in the country. During the present year, the Basháhr State has refused admission of Gujars' buffaloes into its forests, and the whole question was again referred to Government to regulate the numbers of buffaloes proceeding *viâ* Kálsi into the hill forests to graze. It has been disposed of since the close of the year by Government conceding the necessary power to the Divisional Forest Officer in Jaunsár.

There has been a large increase in the area of fire-protected forests, from 76,184 acres to 93,285 acres, principally due to the extension of fire-conservancy to about 25,000 acres of deodar forest in Tehri-Garhwál.

The following points still call for improvement:—

(1) Valuation of the fuel forests set aside for the supply of the troops at Chakráta, and compilation of a working plan, as we are working in the dark at present, whilst for more fuel will be required, as the number of troops at Chakráta is to be largely increased.

(2) A market for other woods than deodar and chir, and utilization of the large amount of deodar wood now wasted in sleeper operations.

(3) Construction of a sledge-road from Deoban to Chakráta, to cheapen the transport of fuel, and construction of a dry slide, if possible, at Deota, between the end of the present sledge road and the head of the slide.

(4) Cheapening of food-supply at Deota.

(5) Proper control of the Tons and Jumna rivers, where the sleeper thefts on the Sirmúr side are still very considerable; and about 2,043 sleepers were stolen this year, as compared with 1,167 in 1884-85. The Nahan villagers also drive cattle along the Tons road whenever it is repaired, in order to prevent our guards from patrolling it, and the position practically remains as it has done for the last five years, as no arrangement with the Rája of Sirmúr has been made in settlement of his claims.

(6) Construction at Chakráta of a good head-quarters bungalow and houses for clerks, which will obviate the necessity for the office being brought down to Dehra every year when Deoban is under snow.

(7) Construction of a good seed godown in Chakráta and proper arrangements for collection and storing of seeds, and improved methods of preparing nurseries and planting up blanks in the fuel and deodar forests.

CHAPTER I.

Area and Boundaries.

Area.

9. The area of the demarcated reserved and leased forests stood thus at the commencement and close of the year :—

	Acres.	Sq. miles.
1st April, 1885	488,489	764
1st April, 1886	513,274	803
Increase	24,785	39

There is a loss of 142 acres in Dehra Dún Division, due to some changes of boundary ordered by the Settlement Officer. A proposition has gone up to Government for the demarcation of certain forests in Tehri-Garhwál acquired under the new lease, of which the area may be estimated at about 60 square miles, but no final orders on the subject have yet been issued

A proposal to include a chír forest in the Malkót reserve in Dehra Dún has also been made, and the Superintendent of the Dún has proposed to add to our reserves two small areas of grants which lapsed owing to non-payment of land revenue by their late owners.

In the Saháranpur Division, the only charge is due to the cession of 14 acres to Mr. E. Powell, a neighbouring zemindar, who disputed the accuracy of our boundary.

In the Jaunsár Division, we have acquired an additional area, estimated at 25,000 acres, by the new lease of the Tehri Rája's deodar forests in the Tons valley, and have ceded 59 acres formerly included under this head.

Of the area now shown, 725 square miles are reserves in British territory, whilst the already demarcated leased area is as follows : —

	Sq. miles.	
Raiengarh	7	Under 50 years' lease, renewable at the pleasure of the British Government.
Dádi	2	
Bushahr	2	
Tehri-Garhwál	67	Under 20 years' lease.
Total ...	78	

Boundaries.

10. The total expenditure on demarcation has been as follows as compared with the average of the last three years :—

	1885-86.	*Average of previous three years.*
	Rs.	Rs.
Construction, repairs and numbering boundary pillars ...	735	1,247
Clearing boundary lines	175	1,896
Miscellaneous	70	125
Total ...	980	3,268

The expenditure has been heaviest, *viz.*, Rs. 588 in the Jaunsár Division, where Mr. Hearle laid down 37 miles of boundary with 113 pillars round the newly-demarcated Chánsil, Sahlra, Naintwár, and Noránu forests of Tehri-Garhwál, and all the boundary pillars in the Deoban range between Chakráta and Bodiár, numbering 115, have also been repaired.

In Dehra Dún the following explanation of the expenditure is given by Mr. Smythies :—

	Rs
Eighty masonry pillars built in Tiraál and Sainkót forests	225
Preparation of numbered slate slabs and fixing 51 of them	58
Clearing six miles boundary lines	14
Miscellaneous	5
Total ...	302

In Saháranpur, the expenditure on demarcation only amounted to Rs. 90, about 8 miles of boundary line being cleared and repaired. As a rule, the pillars in the Saháranpur Division are not numbered, and many of them are substantial heaps of boulders with a wooden post in the centre, which may gradually be replaced by masonry pillars.

11. *Disputed boundaries, &c.*—The boundary disputes in the Dehra Dún and Saháranpur Divisions referred to in last year's report have been settled; in the former case by order of the land revenue settlement officer, and in the latter by the Collector.

The results are given below :—

Division.	Name of block.	Area ceded by Forest Department.	To whom.
		Acres.	
Dehra Dún ...	Kharkhari ...	29	Zemindar of Kharkhari village.
Ditto ...	Rampur Mandi ...	113	Mr. Lewis Powell.
Saháranpur ...	Khairanwala ...	14	Mr William Powell

Mr. William Powell, in consequence of this concession, has agreed to withdraw his claim for damages and to raise no further objection to the existing Government boundary from Khára to the Gejra Rao. The land ceded to Mr. Powell is covered with scrub jungle and is suitable for cultivation. It has been clearly demarcated with pillars and a trench. There is another disputed boundary near Kálu Tira, in the central range of the Saháranpur Division, which will be settled after the monsoon.

The Superintendent of Hill States, Simla, has been unable to visit the Jaunsár Division and settle the boundary disputes with the Taroch Ráná, which have been pending for several years. The Deogarh forest boundary in Jaunsár also remains unadjusted, but its settlement will be attempted next October, the difficulty having hitherto been to get a revenue and forest officer on the ground at the same time.

The following length of boundary line has been certified as in good order in the different divisions :—

	Miles in good order.	*Total miles of artificial boundary.*
Dehra Dún	80	158
Saháranpur	124	124
Jaunsár	33½	Uncertain.
Total	237½	Uncertain.

The boundaries in Jaunsár Division are mostly ridges along hillsides and are not cleared, unless required as fire-lines. They are well demarcated by pillars.

Orders have been issued, since the close of the year, that each forest-guard shall be responsible for the boundaries of his beat being kept free from jungle and the pillars in good repair, and that each range officer should inspect all the boundary pillars in his range once during the year. The divisional officers will also inspect such a part of the boundaries as they may consider necessary to ascertain that the rules are properly observed, and will personally inspect all the pillars which have been repaired during the year.

An excellent plan has been adopted in the Jaunsár forests, where the boundaries between blocks open and closed to grazing are designated on the ground by posts bearing boards coloured red on the closed side and black on the open side. These posts serve as guides to the shepherds.

CHAPTER II.

Surveys, Working Plans, &c.

Surveys.

12. The services of the temporary draftsman and surveyor attached to the Direction Division have been utilized in various ways by divisional officers throughout the year, his pay being charged to B 111. F, office contingencies. Up to the present time, it has been customary, except in the Dehra Dún Division, only to keep a folded camp set of maps in the divisional offices, but it has now been ordered that a portfolio of unfolded maps shall be kept up to date in the Direction and each of the divisional offices, on which all changes of boundaries, as well as new roads, rest-houses, plantations, &c., shall be entered.

Printed sheets of an excellent map of the Raiengarh and Dádi leased forests, with those of Sansóg, Ori, and Bánpur in Jaunsár and a portion of the Tehri-Garhwál forests, were received from the Forest Survey Department during the year. The only forests at present unsurveyed are those of a portion of the Tehri leased forests in the Tons valley, and the Tehri leased forests attached to the Dún Division. Proposals to have the former surveyed have been submitted to Government.

Working Plans.

13. The total expenditure for working plans during the year has been Rs. 2,665.

Mr. Fernandez's working plan of the Dháragád deodar forests was printed early in the year, but the final orders of Government regarding it have not yet been issued. Although commenced in May, 1883, only 45 days were taken up in field work and 26 in compilation of the plan.

The valuation of this forest and the compilation of the working plan were ordered by Major Bailey, as he wished to start sleeper works in a forest less remote than Deota and more accessible for students of the Forest School. It was then also quite uncertain whether the Tehri forests would be leased again, and it was desirable to have a scheme ready for working a deodar forest in British territory as soon as possible, besides being most urgent to ascertain how much mature deodar we had in Jaunsár. Matters have now changed, and Mr. Hearle has ascertained that the deodar forests in Tehri, which we have now leased, are much richer than was anticipated, and will yield one lakh of metre-gauge sleepers per annum, for some years without any danger of their being overworked. It is also evidently desirable to keep the only well-stocked deodar forest we have in British territory in the North-Western Provinces intact, until the leased forests have been fully worked; and it is too costly to start expensive sleeper works at several places at once. Under these circumstances, it is not proposed to carry out all the provisions of the Dháragád working plan, which is an excellent one and has been written out very fully by Mr. Fernandez, with special reference to the instruction of students at the Forest School. The cultural part of the plan, however, may be at once commenced, and the exploitation part can be followed when the work in the Tehri forests is over.

Mr. Hearle has completed the valuation of the leased Tehri-Garhwál forests in the Tons valley, and will commence drawing up the working plan on his return from privilege leave next October. Besides the deodar valued, which we have already referred to, Mr. Hearle valued two small blocks of boxwood forest included in the area and containing 2,161 trees. Mr. Fernandez spent a good deal of time in compiling the Dehra Dún working plan, of which the descriptive part is all but finished, and only the scheme for working the forests remains to be drawn up. The stock maps are all ready.

The necessity for compiling working plans of the Chakráta fuel forests in Jaunsár and of the Siwálik forests of the Saharanpur Division has been already explained.

Measurement of growing trees.

14. The measurements of trees in the sample plots in the three divisions were made in June and December, and some of the results are given in an appendix.

Mr. Clifford makes the following interesting statement :—

"It is evident that wood formation is practically at a standstill during the early part of the year, corresponding with the fall of the old leaves and development of new ones, and that all wood production takes place from June to December.

Counting concentric rings.

15. The rings along the average radii on stumps of 19 spruce and one silver fir were counted by students of the Forest School in the Kópti block. The concentric rings along average radii of 21 deodar stumps were similarly counted in the Deota and Chájpur forests. In addition, the concentric rings of 40 chír trees were counted by students.

The results of these experiments are given in the following table :—

Average number of rings per inch of radius for		deodar	...	9·3
Ditto	ditto	spruce fir	...	8·7
Ditto	ditto	silver fir	...	14·7
Ditto	ditto	chír	...	12·4

Reducing factors.

16. This experiment was made with 10 deodars at Deota by the forester (now rangor) and by students of the Forest School on three spruce and 17 silver firs in Jaunsár.

The first refers to the outturn in accepted metre-gauge sleepers, and shows that the average for the 10 sample trees, of which the average mean girth was 7′ 1″, was this year 72·8 as against 90·4 per tree for 13 sample trees last year. The sample trees are good specimens, chosen to represent different girths, and the best sawyers are employed in sawing them up. The rate of pay being higher, greater care is taken than with the ordinary trees.

It will be seen further on that the average outturn of accepted sleepers for the whole number of trees (*viz.*, 940) sawn up was 34·7 as against 35·5 of last year. The size of deodar trees differs much from place to place.

Annual plans of operation.

17. The plans of operation for the different divisions are not given in the annual report this year, as they do not appear to be of general interest, but printed summaries of them have been submitted separately to Government.

CHAPTER III.

Protection and Improvement.

Establishment.

18. *Sanctioned permanent and temporary establishment.*—The following statement shows the amount sanctioned for permanent establishment and the actual expenditure on temporary establishment during the year :—

Division.	*Subordinate staff.*		*Office establishment.*	
	Permanent.	Temporary.	Permanent.	Temporary.
Direction	1,704	440	1,620	930
Dehra Dún	3,856	4,292	1,452	611
Sahárunpur	1,272	4,246	1,140	220
Jaunsár	4,616	4,106	1,500	180
Total ...	11,448	13,084	5,712	1,941
Previous year ...	11,448	13,559	6,432	2,108

The savings shown under office establishment is due to the appointment of the second Clerk of the Direction Office as Clerk of the Forest School.

Slight savings have also been effected under temporary establishment.

The sanction of the Government of India was accorded, after the close of the year, to the proposed increase in the permanent establishment, sanction to a total monthly amount of Rs. 2,789, as against Rs. 1,490, being accorded; but as there will be a saving of Rs. 1,131 in the temporary establishment, the total increase is only Rs. 168 per mensem.

19. *Rangers.*—The only sanctioned permanent rangership in the School Circle, on Rs. 50, was held by Har Sarúp of Meerut, who is in charge of the central range, Dehra Dún Division. Mr. Smythies states that this officer is active and intelligent and takes a great interest in his work. His excellent work in fire-conservancy has been referred to further on.

The other ranges in Dehra Dún are in charge of foresters, three of whom—Rám Narain, Nanak Chand, and Har Sarúp of Fyzabad—obtained the forester's certificate at the Forest School. The former has done very good work during the year, his fire-conservancy only costing 5·4 pies per acre, and he was promoted to a Rs. 40 forestership. Nanak Chand, in charge of the Thâno and Tirsál ranges, is rather deficient in practical intelligence and extravagant in his charges, fire-conservancy costing 15·4 pies per acre. Har Sarúp of Fyzabad has worked well in charge of the Malhán range, and was promoted to a forestership on Rs. 30. Akbar Ali, a forester in charge of the Jumna range, has worked well and cheaply, five-conservancy only costing 3·9 pies per acre, the cheapness being partly due to the absence of timber works and internal fire-lines.

In the Saháranpur Division, Mr. Clifford complains much of the inefficient management of his ranges by untrained men; but Forester Badri Dutt, in charge of the eastern range, deserves praise for reducing the fire-conservancy charges. As Mr. Smythies, who, besides a Sub-Assistant Conservator, has four men trained at the Forest School in charge of his ranges, states that the character of the protective staff has certainly improved during the year, the comparison between the circumstances of the two divisions is obvious.

In the Jaunsár Division, Sada Nand, a trained student at the School and promoted to a temporary rangership of Rs. 50 during the year, is praised by Mr. Hobart-Hampden for his management of the sleeper works at Deota during his own three months' absence on privilege leave. I hope that next year I may be able to praise this ranger for careful fire-conservancy, to which he has not yet given sufficient attention.

The other ranges in Jaunsár are in charge of untrained men, who have generally given satisfaction to the divisional officer.

20. *Subordinates of the Circle attending the Forest School.*—The following is the list of men, belonging to the Circle, who attended the Forest School course in 1885-86:

Name.	Position.	Pay.	Remarks.
		Rs.	
2nd year's Rangers' course.			
Keshava Nand	Forester, 2nd grade ...	35	Dehra Dún Division: obtained the Rangers' certificate with honors.
Har Sarúp of Fyzabad	„ 5th „ ...	20	Direction Division: obtained the Foresters' certificate.
1st year's Rangers' course.			
Wájid Ali	Forester, 5th grade ...	20	Direction Division.
Alamdár Hussain	„ 6th „ ...	15	Ditto.
Vernacular course.			
Ráma Dutt	Forester, 1st grade ...	40	Jaunsár Division.
Pirbhhu Lál	„ 5th „ ...	20	Saháranpur division.
Pancham Singh	Munshi ...	15	Ditto.
Mukundi Lál	Forester, 6th grade ...	15	Dehra Dún Division.
Kanáhya Lál	Forest-guard, 2nd grade	10	Ditto.
Kohár Singh	Ditto ...	10	Ditto.

Keshava Nand obtained the rangers' certificate with honors and several prizes, including those for forestry, theoretical and practical, and for the best herbarium; he was appointed as a temporary ranger on Rs. 50 in the Dehra Dún Division from the 1st January, and worked for Captain Wood in the Khori forests till the end of the financial year.

21. *The protective staff.*—Mr. Smythies states that the character of the protective staff in the Dehra Dún Division has improved during the year, and that numerous petty offences have been brought to light by the forest-guards.

There has, however, been a serious case of dishonesty, in which a forester on Rs. 15 was sentenced to two years' imprisonment for misappropriation of Government dues. Four forest-guards were dismissed for inattention to duties or overstaying leave, and six men resigned their appointments.

Mr. Clifford complains that in Saháranpur, not having any rangers, his forest-guards are not properly supervised, and six were dismissed for various offences.

Mr. Hobart-Hampden only took over charge of the Jaunsár Division at the close of the year, and cannot, therefore, speak decidedly about the character of the establishment there, which, however, he believes to have worked satisfactorily. As regards the men belonging to the old Tons Division, he is satisfied with the work done by the foresters, but has little praise for the forest-guards.

22. *Students of the Forest School employed in the forests.*—The regular students of the Forest School, who in former years used to learn practical work in the forests of the Circle under the divisional officers, now study throughout the dry season under the Deputy Director, who himself directs any works which they may undertake for divisional officers.

In this way the following works were undertaken in the Dehra Dún Division :—

Laying out and levelling a road 6 miles long between the Nágsidh forest and the Suswa river, and actual construction of 1¼ miles of the road.

Récolement of stumps of trees sold last year in the Rámgarh forest.

Marking 11,000 trees for sale in Phándowala block; cutting bad, damaged shoots and saplings in the area of last year's fellings.

Burning several miles of fire-line.

Measuring heights of plants in plantations, and of coppice-shoots in some of Mr. Greig's thinnings in Bullawala forest.

Manufacture of charcoal in the Rámgarh forest.

The Forest School did not visit the Saháranpur Division during the present year, but was there for a short time in April, 1885, and carried out several useful works. It was in the Jaunsár Division in May and June, 1885, and counted and measured the plants in the plantations and executed various works, which are not, however, referred to in the divisional report.

Besides the annual tour of the Forest School, several students from Native States, and of this and other Circles, have been placed under the divisional officers to acquire a practical knowledge of forest matters before they commence the theoretical course at the School. The divisional officers report that they have all been interested in the works entrusted to them and have worked well.

23. *Office establishment.*—In the Direction office, the work has been well done and intelligently supervised by my Head Clerk, Babu Kashíshwar Mukerji.

In the Dehra Dún office the work is well done, and at the Conservator's inspection of the office in October, 1885, the state of the records, &c., was found to be satisfactory. The same may be said of the Sahráranpur office, which was inspected in September.

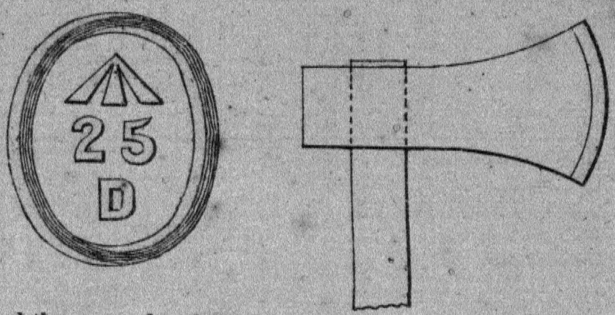
The Jaunsár divisional office was not inspected during the year. It is thrown considerably out of gear by the annual migration to Dehra from Deoban in December and by the return to Deoban in April. This wastes one month of their time,

whilst Government is put to the expense of the transfer and of the travelling allowance of the establishment during the interval; all this might be avoided were the office permanently located at Chakráta, where that of the Military Works and Commissariat offices remain throughout the year.

24. *Uniform and badges.*—The new uniform as approved by Government has been introduced, but the cloth supplied for forest-guards by the Elgin Mills is very inferior and only lasted six months with my own orderly chaprassis, who have comparatively little out-door work.

It must be replaced by more substantial cloth, and that supplied at six annas a yard by Messrs. Skinner and Co. of Bombay for the Forest School appears to me excellent. The pagris are handsome, but the dark-green soon turns blue by exposure.

Each forest-guard carries a marking axe, as shown in the figure :—



weighing 2lb; and these are found much more useful than a khúkri, and can be used either for clearing lines, cutting climbers, or for marking Government timber with the property-mark, which consists of an oval containing the Government broad arrow, the number of the beat and initial letter of the division.

Timber marks.

25. The memorandum on the use of timber marks referred to in last year's report has been revised and republished.

General protection and forest law.

26. The result of the prosecutions before Magistrates for breaches of forest rules was as follows as compared with the last three years :—

Year.	*Convictions.*		*Acquittals.*	
	Cases.	Persons.	Cases.	Persons.
1882-83	12	19	4	21
1883-84	7	19	8	20
1884-85	26	56	11	30
1885-86	12	26	2	10

No cases were pending either at the commencement or at the close of the year. The cases included the following:—

Injury to forest by fire	2
Unauthorized felling, &c....	4
Illegal grazing	3
Other offences	5

The cases classed as other offences were all in the Dehra Dún Division and included the following :—

Assault on forest-guards	2
Fishing in reserved forests	2
Shooting without license	1

The cases in the Dún and Saháranpur Divisions call for no comment, except that the divisional officer of Dehra Dún might have the power to confiscate nets used for illegal fishing, and then to deal with such cases under section 67 of the Act.

As it is, such cases, which come peculiarly within a forest officer's cognizance, have to be dealt with by a Magistrate. Fishing with nets in zemindari streams is permitted, and thus much small fry and spawning fish are destroyed.

There was only one case in the Jaunsár Division, in which a man was convicted by Mr. Moir, as Assistant Superintendent of Hill States, of felling ten deodar trees in Bashahr, and was sentenced to one month's imprisonment.

27. *Cases compounded under section 67 of the Forest Act.*—The following shows the number of cases compounded under the Forest Act:—

Results of cases compounded under section 67 of the Forest Act.

Year.	Cases compounded.			Cases dismissed.		Remarks.
	Cases.	Persons.	Amount of compensation in rupees.	Cases.	Persons.	
1883-84 ...	68	128	559	10	75	Rs. 31 and Rs. 12 were paid in the Saháranpur and Dehra Dún Divisions as reward to forest-guards, and Rs. 3 in the Jaunsár Division
1884-85 ...	93	157	1,300	14	42	
1885-86 ...	109	159	950	13	25	

The cases were classified as follows:—

Injury by fire	5
Unauthorized felling, &c.	99
Illicit grazing	7
Other offences	11
Total ...	122

The 109 cases compounded were distributed as follows:—

	No. of cases.	Compensation received.
		Rs.
Dehra Dún	32	143
Saháranpur	33	543
Jaunsár	44	264
Total ...	109	950

The most serious cases were in Saháranpur and were due to lessees permitting the cutting of produce outside the boundaries of their leases and felling green trees illicitly.

As regards the leased forests attached to the Jaunsár Division, it would be very convenient if the divisional officer were authorized by the Hill Chiefs to dispose of petty offences under section 67, as otherwise all cases have to be sent to the Rájas' courts, which are frequently very inaccessible. Thus, the nearest court of the Tehri Rája to Deota is at Barkót, at a distance of 120 miles, and is presided over by a Thánadar drawing Rs. 15 a month.

A record of all cases in which compensation is taken is now kept up in a bound book in each division, in accordance with the orders of Government; and this book can be inspected by the Conservator of Forests or by the Magistrate of the district at any time. Power to give rewards to forest subordinates reporting forest offences, which was formerly vested with Conservator, is now vested by G. O. No. $\frac{361F}{275}$, dated 9th June, 1885, with divisional officers.

28. *Relation between the people in the villages on the borders of the forest and the forest officials.*—Mr. Smythies reports that the Tháno villagers, who have been accorded the privilege of grazing throughout the year in a large grass area in the Tháno reserve, on condition of their assisting in fire-conservancy, again rendered prompt aid in extinguishing a small fire which broke out in the closed forest.

In the Saháranpur Division, there are a few villages close to the forests where the inhabitants give considerable trouble, but in each range the fire-guards are men taken from the surrounding villages, and a good deal of employment on forest works is annually afforded. Mr. Powell, a neighbouring zemindar, gave valuable assistance in

a forest fire in the Barkola block, taking off labourers from his own fields and sending them to assist in extinguishing the fire.

In Jaunsár, the villagers are more difficult to deal with, and those of Chatri, who burned the chír forest near their village, in spite of the warning of the divisional officer, deserve to lose their privileges in the forest for a term of years. The villagers of Bashahr have also given some trouble, beating and driving out the Gújars whom Mr. Moir allowed to graze in the forests, and by interfering with the works of a timber contractor. The divisional officer himself marked the deodar trees for free grants in Jaunsár during the year, but several of the khatts have not yet adopted the saw and refuse to remove their trees, and the permission to hew up planks has been accorded by order of Government for another two years, after which it is to cease altogether.

There can be no doubt that more than half the wood is wasted when planks are hewn out with an axe, and that twice as many can be sawn out of logs. The use of slates, instead of wood, for roofing should also be encouraged.

The question of the Gújars grazing in the hill forests has been settled satisfactorily since the close of the year, as already stated.

29. *Shikaris and wild animals.*—It will be seen from the map at the commencement of this report that very large areas of forests are now closed against shooting in the Dún and Saháranpur forests for a large portion of the year—*i e.*, from middle of January to the commencement of the monsoon.

As these forests are very accessible to sportsmen from Meerut, Umballa, Chakráta, and other places, it is a question whether, if a permit to shoot in the season when fires are to be feared were sold for, say, Rs. 25, holders of such licenses might not be allowed to shoot without danger to the forests.

There is a good deal of poaching by Gúrkha soldiers, mostly men on leave and pensioners; and in June, 1885 Mr. Broun caught a party of 13 with fires lighted in the midst of the closed forest of the Saháranpur Siwáliks, who had killed 14 sambhar, hinds and stags. Mr. Broun took the names of the men, who were afterwards found to have given fictitious ones, so that they all escaped punishment.

In another case the ranger, Har Sarúp, was beaten by a party of Gúrkhas, when he attempted to arrest one of them for killing a hind. There was no proof that the hind was killed in a Government forest, and an enquiry held by the officers of the regiment led to nothing; owing to the darkness at the time of the assault, Har Sarúp could not prove which soldier had hit him. The soldiers gave a different account of the case to their officers, and the Commandant did not see his way to inflict any punishment on the Havildar in charge of the party for allowing his men to assault a Government servant in discharge of his duty.

Fishing with nets or by damming the streams is still common in the Dún, and some strengthening of the rules in this respect is needed. There is excellent rod-fishing in the Dún, and net-fishing in these shallow streams must greatly prejudice the breeding of the fish and spoil sport.

The shooting of birds for their plumage appears to have been put an end to in the Dún by Mr. Baker's refusal to continue the licenses to the Messrs. Seale. Mr. Clifford's list of birds which require protection has been published during the year and submitted to Government, but no further action appears to be called for at present.

As regards game birds, a rule has been introduced by the Mussoorie Municipality that between the 15th March and 1st October—

"Having in possession any of the following game birds for food or sale —

pheasants of all sorts,
partridges of all sorts,
jungle-fowl,
peafowl,

will be punishable; and a similar rule has been adopted by the Dehra Dún Municipality, but has not yet received Government sanction.

Rules have been framed by Government allowing licenses for the destruction of rogue elephants in the Government forest to be issued by Collectors, and due provision is made in the rules to allow for the supervision of holders of these certificates by forest officers, who may call on them to leave the forest in case they break the rules in any way. Mr. Clifford states that the elephants in the Saháranpur Siwáliks are rapidly losing the timidity engendered by the Kheddah operations of last year, and are again venturing down to the cultivations.

In the Jaunsár Division, one of the forest dâkwalas was killed and a shepherd shortly afterwards in the Chánsil ridge to the west of the Tons river; this is said to have been by a panther.

No man-eating tigers have been heard of till after the close of the financial year.

Forest Fires.

30. The annual statements show the results of fire-conservancy separately for forests in British territory and for leased forests in Native States, as these latter largely depend on merely estimated area figures, the forests not having been yet surveyed:—

Fire statement (British territory).

Division.	Area attempted to be protected.	Percentage to entire area.	Failures.	Successfully protected.	Percentage of failures to area attempted.	Total cost from commencement of fire-conservancy to 30th June, 1886.	Area of closed forest open to grazing throughout the year.
	Acres.		Acres.	Acres.		Rs	Acres.
Dehra Dún. 1882-83 ...	41,027	23	1,248	39,779	3·0	24,351	...
1883-84 ...	47,770	27	149	47,621	0 3	29,024	...
1884 85 ...	85,321	48	607	84,714	0·7	34,319	12.101
1885 86 ...	127,860	72·2	140	127,720	0 1	38,549	81,377
Saháran-pur. 1882-83 ...	38,091	20	285	37,806	0·8	8,870	...
1883-84 ...	39,155	20	612	38 543	1·6	12,461	...
1884-85 ...	66,826	35	62	66,764	0 09	15,782	5,632
1885-86 ...	103,006	54	11,977	91,029	11 1	18,917	26,086
Jaunsár, 1882 83 ...	46,607	45	747	45,860	1·6	5,296	Not shown.
1883 84 ...	47,727	46	2,156	45,571	4 5	6 038	
1884 85 ...	49 022	47	61	48,961	·12	7,340	
1885-86 ...	50,166	48	1,434	48.732	2 8	8,303	
Total ... 1882-83 ...	125,725	26·7	2,280	123,445	1·8	68,517	
1883 84 ...	134,652	28·6	2,917	131,735	2 1	47,523	
1884-85 ...	201,169	42·8	730	200,439	34	57,391	
1885 86 ...	281,032	59·9	13,551	267,481	4·8	65,769	

Fire statement (Leased Forests in Native States).

Division.	Area attempted to be protected	Percentage to entire area.	Failures.	Successfully protected.	Percentage of failure to area attempted.	Total cost from commencement of fire conservancy to 30th June, 1886.	Area of closed forest open to grazing throughout the year.
	Acres.		Acres.	Acres		Rs	Acres.
Dehra Dún, 1885-86 ...	2,240	·6	*Nil.*	2,240	*Nil.*	54	Not shown.
Jaunsár ... 1882-83 ...	24,393	95	682	23,711	2·8	2,303	
1883 84 ...	23,273	91	29	23,244	·1	2,734	
1884-85 ...	27,273	92	6	27,267	·02	3,218	
1885-86 ...	43,603	98 8	50	43,553	·11	3,779	
Total ... 1882 83 ...	24,393	95	682	23,711	2·8	2,303	
1883-84 ...	23,273	91	29	23 244	·1	2,734	
1884-85 ...	27,273	98 8	6	27,267	·02	3,218	
1885-86 ...	45,843	55·1	50	45,793	·10	3,833	

Fire statement for all the forests of the Circle.

Division.		Area attempted to be protected	Percentage to entire area.	Failures	Successfully protected	Percentage of failures to area attempted	Total cost from commencement of fire-conservancy to 30th June, 1886	Area of closed forest open to grazing throughout the year	Remarks.
		Acres		Acres			Rs	Acres	
Dehra Dún	1882-83	41,027	23	1,248	39,779	3 0	24,351	..	
	1883-84	47,770	27	149	47,621	0 3	29,024	...	
	1884-85	85,321	48	607	84,714	0 7	34,319	12,101	
	1885-86	130,100	60	140	129,960	0 1	38,603	31,377	
Saháranpur	1882-83	38,091	20	285	37 806	0 8	8,370	...	
	1883-84	39,155	20	612	38 543	1 6	12,461		
	1884-85	66,826	35	62	66 764	0 09	15,732	5,632	
	1885-86	103,006	54	11,977	91,029	11 1	18,917	26,086	
Jaunsár,	1882-83	71,000	55	1,429	69,571	2 0	7,599	..	
	1883-84	71 000	55	2,185	68,815	3 0	8,772		
	1884-85	76 295	62	67	76 228	09	10 558	23 384	
	1885-86	93,709	63	1,484	92,225	1 5	12,082	51,638	
Total .	1882-83	150 118	30	2,962	147,156	1 9	40,320	...	
	1883-84	157,925	32	2,946	154,979	1 8	50,257	..	
	1884-85	228,442	46	736	22. 706	0 3	60 609	41,067	
	1885-86	326,875	59	13,601	313,274	4 1	69,602	1,59,601	

The total figures for the Circle are here given, but it should be remembered that a total area of leased forest of 39,000 acres in Dehra Dún and 25,000 in Jaunsár is merely the estimated area of unsurveyed forests. The map showing the results of the fire-conservancy has been prepared for the Jaunsár and Dún and Sewálik forests on two separate sheets, in which the leased forests in Tehri-Garhwál attached to the Dehra Dun Division are not shown. The area which we have attempted to protect from fire in British territory has been increased from 201,169 to 281,032 acres, the increase having been as follows :—

	Acres.
Dehra Dún	42,589
Saháranpur	36,180
Jaunsar	1,144
Total ...	79 863

and the closed forests are nearly 60 per cent. of the total area of the forests. The new areas comprise in Dehra Dún the whole of the Jumna forest, and portions of the Timli, Chandrabani, Rámgarh, Nágsidh, Kánsrao, and Motichur forests.

In the Saháranpur Division, the larger portion of the Khára and Búdsháhibágh blocks and the whole of the Sewálik forests in the eastern range are now protected for the first time. An area of 328 acres in the Patri forests, formerly protected, has been abandoned this year, as this forest is now traversed by the Oudh and Rohilkhand Railway, and it was considered advisable to have all the closed forest, including the Firozpur plantation, on one side of the Railway.

In Jaunsár, there is a correction of the area of the Raiongarh and Dádi and Deogarh forests of 274 acres due to the forest survey, which accounts for a portion of the increase, whilst some chír forests in Majóg, Ubragád, and Banadhár have been protected for the first time.

The failures in British territory have been considerable, comprising 11,977 acres, of which 11,313 acres were previously protected and 664 acres were closed for the first time in the Saháranpur Division, and 1,431 acres in Jaunsár, whilst in Dehra Dún only 140 acres of forest in which protection was attempted have been burned.

In the leased forests in Native States, there has also been a large increase in the area attempted, from 27,223 acres to 45,843 acres, the increase being 2,240 acres of the leased Tehri forests in the Ganges valley attached to the Dehra Dún Division and 20,500 acres of the newly-leased Tehri forests attached to the Jaunsár Division, whilst

an area of 4,120 acres has been excluded owing to the cession of the Rawai, Jaunpur, Báshla, and Binksár forests to the Tehri Rája.

The area of the fire-protected forests open to grazing throughout the year was 159,601 acres, distributed as follows:—

		Rs.
Dehra Dún		81,877
Sahárunpur		26,086
Jaunsár		51,638
	Total	1,59,601

No difficulty has arisen in allowing grazing in fire-protected forests except in Saháranpur, where certain Gújar graziers were suspected of firing the forests, but no proof against them was obtained. Such men can be easily excluded and only local graziers admitted to the closed forests; and over three years' experience in Thano shows that, with care, the wants of the latter may be supplied without risking the burning of our forests.

Mr. Hobart-Hampden states that the Rája is still protecting the Báshla chír forest from fire as well as the deodar forests which we resigned last year.

There were only 50 acres burned in the Naintwár forest in Jaunsár in the whole area in which protection was attempted in the leased forests of Tehri-Garhwál and Bashahr.

The cost of protection is as follows as compared with the preceding year:—

Divisions.	*Area successfully protected.*	*Cost.*	Cost per acre in pies.	Remarks.
	Acres.	Rs.		
Dehra Dún ... Average of previous 6 years ...	31,183	3,665	22·5	
1884-85...	84,714	5,295	12·	
1885-86...	129,960	4,284	6 3	
Sahárunpur .. Average of previous 6 years ...	24,656	2,038	15·8	
1884 85	66,764	3,271	9 4	
1885-86...	91,029	3,185	6 7	
Jaunsár ... Average of previous 6 years ..	62,679	1,148	2·5	
1884-85...	76,328	1,786	4 5	
1885-86...	92,285	1,524	3·1	
Total ... Average of previous 6 years ...	118,685	6 851	11·1	
1884-85...	227,706	10,352	5·8	
1885-86...	313,274	8,993	5·5	

It will then be seen that there has been a considerable reduction in the cost of fire-conservancy, especially in the Dún and Saháranpur Divisions, and that the cost per acre was 5·5 pies and now approximates much more closely than before with the figure for Bengal, which a statement in the *Indian Forester* for August gives as 4·24, whilst that for the Central Provinces and Berar are 3·95 and 1·48 pies respectively, the average for the Bengal Presidency being 6 pies per acre. The comparatively low cost for the hill forests is due to the nature of the deodar forests, which are not very inflammable, and to the late melting of the snow in March and the early rains in May, which prevent the necessity for keeping up a number of fire-guards as in the Siwáliks forest. The cost would be much lower in Jaunsár were it not for the protection of the chír forests, which are highly inflammable, owing to the long grass in the undergrowth and the fall of the resinous needles in April and May.

The reduction in the cost of fire-conservancy in the plains' divisions is due partly to the greatly increased area under protection, whereby some interior fire-lines have been avoided and the same number of fire-guards look after a larger area, and to greater skill on the part of the divisional officers and their subordinates, resulting in a reduction in the labour gangs.

The whole of the fire-protected forests in the Western Dún, except the Chandrabani forests, a total area of 46,757 acres, are open to grazing; and Mr. Smythies'

remarks that the fire of 500 acres referred to in last year's report was not due to graziers, but to carelessness in burning a fire-line, and that it is workmen, shikaris, honey-seekers and travellers who burn the forests in the Dun, rather than cowherds. In the forests within 10 miles of Dehra, at any rate, the demand for thatching-grass is so great that, after the grass has been cut, nothing is left to burn except the dead leaves in May and June, and this burning of the dead leaves is not of the slightest use to graziers and does immense damage to the young sal and other trees.

The cheapest work in the Dún was in the Jumna range under Forester Akbar Ali, where 28,009 acres were protected for 3·9 pies per acre.

In the central range Forest Ranger Har Sarup has reduced the expenditure from Rs. 2,147 last year to Rs 1,089 during the present year, although the total area has increased from 27,760 to 36,195 acres, the average cost on this range being 6 6 pies Forester Ram Narain, also a trained student from the Forest School, protected 32,760 acres in the eastern range, as compared with 13,826 in the preceding year, at a cost of Rs. 925, compared with Rs 920 last year, the cost per acre being 5 4 pies.

These results are most creditable to the Range officers The failures in the Dun are 80 acres of grassy blanks with a few scattered sal in the Thano forest along a public road, probably caused by travellers smoking; and 40 acres in Sherpur and 10 in Chandrabani, of which the cause is unknown; and 10 in Bulawala, of which five were burned by a shikari; and five in the west of the Siwaliks by lightning. An area of 2,240 acres in the leased forests of Tehri-Garhwál was also protected for the first time this year at a cost of 4 6 pies per acre The coppice fellings in these forests renders the protection of the young shoots from fire necessary

On several occasions, the range officers in the Dun went over with gangs of coolies to assist in extinguishing bad fires which broke out on the south side of the Siwáliks in the Saháranpur Division, and this prompt and ready action on their part is most praiseworthy

In the Saháranpur Division there has also been a large increase, from 66,764 to 91,029 acres, in the protected area, which is closed to protect the canals from the effects of floods, as well as for the improvement of the forests. The cost has also diminished considerably, from 9 4 to 6 7 pies per acre, in this division, and the success of Badri Dutt, the forester in charge of the eastern range, in protecting all his Siwáliks forests, 15,188 acres, at a total cost of Rs 172, or 2 17 pies per acre, is very creditable. Mr. Clifford gives the following statement comparing results for each range, and as it is very useful and may lead to further economy if the cost under the different heads are given for each division, similar statements will be given next year by the other divisional officers —

Range	Area			Clearing lines			Firing lines.			Establishment		Extinguishing conflagration		General results.		
	Attempted to be protected.	Failures	Actually protected	Total length	Total cost	Cost per running mile	Total length.	Total cost	Cost per running mile	Total cost	Cost per 1,000 acres actually protected	Total cost	Cost per 1,000 acres	Total cost.	Cost per 1,000 acres actually protected	Cost per acre in pies
	Acres	Acres	Acres	Miles	Rs	Rs	Miles	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Pies.
Western .	41 141	4 323	36 317	28	104	3 7	17	22	1 3	474	13	75	15 6	675	18 5	3 56
Central .	40 006	7,064	33,942	102	312	3·05	42	218	5 2	1,266	32·5	89	12	1,88,	48 45	9 28
Eastern ..	15,860	90	15,770	29	239	8 2	9	70	7 7	314	20	2	2 2 2	625	39 80	7 66*
Total ..	103,006	11,077	91,029*	159	655	4 11	68	310	4 55	2 054	22 5	166	13 5	3 185	35	6 71

*Patri cost per acre — 140 43
Siwáliks . ... 0 22 pies

I regret to say that the failures in this division have been very heavy, 11,957 acres having been burnt, chiefly in the western and central ranges.

They are as follows:—

Western range, Khára block, 518 acres burnt and 109 acres in the Bádsháhi-bágh block on the 23rd April. This fire occurred on the 23rd April, high up in the Siwáliks, and suspicion rests on certain Gújar graziers, but no direct evidence against them was available. The damage done was slight, the tree growth being very scattered owing to the forests having been hitherto burned annually. Another small area of 38 acres was burned in the Khára block in May, the origin of this fire also being unknown. In the Barkola block, which was protected for the first time in 1885, a fire broke out on the 15th April and raged until the 17th in spite of the efforts of the subordinates to extinguish it. It was probably due to incendiarism, having occurred while the forester with many of the fire-guards were burning a fire-line 8 to 9 miles away. It was to help in extinguishing this fire that Mr. W. Powell kindly supplied a gang of 29 men. The area burned was 2,118 acres in this block and 390 acres in the Kasúmri block; the area burned consisting chiefly of steep precipitous hills with scanty vegetation.

Another fire, extending over 819 acres in the Kasúmri and 832 in the Sáhensra blocks, occurred on the 28th April, and was not finally extinguished till the 1st May. Mr. Clifford personally superintended the efforts of his men in entirely extinguishing this fire. Here also the greater part of the area resembled that already described for the Kasúmri block, but some patches of chír and sál and a fine piece of sál forest between the Patli Sôt and the Sáhensra Rao were burned. This disastrous fire is supposed to have been caused by a fire-guard taking honey and burning out the bees, but the evidence against the man, which Mr. Clifford submitted to the Government Pleader, was not considered sufficient to ensure conviction before a Magistrate.

The ranger in charge of the western range, Murád Ali, was ill when these fires occurred, but some of the forest-guards did not appear to have done their best to extinguish the fires. Murád Ali is too old for the charge of a range and will be shortly replaced by a more active man.

In the central range, a fire broke out in the Rasulpur block on the 18th April, 1886 and extended over the whole block, 2,445 acres, and also burned 2,227 acres in the Bám and 1,688 acres in the Betban blocks and 684 acres in the Dholkhand block.

There was a strong west wind blowing at the time, and the fire was not extinguished till the 21st April. Considerable damage was done by this disastrous fire, the bamboos in the Bám block being burned, and the sál forest in Rasulpur and the Bám sál plantation, but the plants have since the fire sprung up again from the burned shoots.

The origin of this fire was not traced, but Mr. Clifford thinks that it was probably due to incendiarism. This range had no proper range officer, as the forester formerly in charge of it was attending classes at the Forest School; and the great extension of this fire must be ascribed to the fire-line along the Hardwár road being unburned, and to a want of skill in the range officer in counterfiring and getting up supplies of food for his labour gang, though he showed great energy in bringing together numbers of men from the villages, who worked willingly enough. The fire was finally extinguished with the assistance of Forester Rám Naraín and Forest Ranger Har Sarúp, who brought up gangs of men from the Dún across the Siwálik crest. A small fire over 20 acres occurred in the Sendhli block in September, 1885, probably due to a villager removing honey from a tree.

The only fire occurring in the eastern range was 90 acres in the Patri forest, caused by two railway guards who were out shooting; and the fire must have arisen from a paper wad. The men admitted the offence, but pleaded ignorance of rules and paid Rs. 15 compensation to Mr. Clifford. The damage done was not great, most of the tract burned merely consisting of grass land.

Fire-conservancy on an area of 328 acres in the Patri forest, where it has previously been attempted, was abandoned this year. The expenditure on fire-conservancy in the Patri forest is very high, *viz*, 12 annas and 6 pies per acre, as against 6'71 pies per acre for the whole division; this is owing to the necessity for broad fire-lines in the high grass and to the small area protected, which is surrounded by open forests on all sides.

In the Jaunsár Division, besides a few fires of trifling extent, which do not call for any remark, there was a disastrous fire of 406 acres in February in the chír forests of the Deota range, caused by a shifting wind when the fire-lines were being burned. This points to want of skill on the part of the forest-guard. Mr. Hobart-Hampden states that the ranger was not present owing to more important duties on the timber slide, but the ranger should so arrange his work as to be on the spot when important fire-lines are being burned, and should utilize the lessons he has learned at the Forest School in teaching his subordinates not to burn fire-lines, whilst the wind is contrary, unless delay would be very prejudicial.

Another serious fire, extending over 681 acres of chír forest, occurred in the Deota range, and was due to a gang of woodcutters having left a fire burning in their camp on the bank of the Tons, the fire being carried by the wind across a 35-feet fire-line.

The forest-guard in charge of the block knew that the woodcutters lighted fires, which must be allowed under proper precautions when timber work is going on in the closed forest, but he did not see that the fire was extinguished when the men left their camp; and the ranger who allowed the men to remain within the closed forest did not see that sufficient care was taken to isolate the woodcutters' camp and to make one of their number responsible for extinguishing the camp-fires.

The contractor lost 2,000 chír karris in this fire, and a case was brought against the men before the Cantonment Magistrate, but fell through for want of evidence that the forest was burned from their camp-fire, though there could be no reasonable doubt that this was the case.

Grazing and Fencing.

31. The area of forest open to grazing throughout the year in the Circle is as follows :—

Division.	Protected from fire.	Unprotected.	Total.
Dehra Dún...	81,877	49,220	1,31,097
Saháranpur	26,086	85,557	1,11,643
Jaunsár	51,636	53,862	1,05,500
Totals ...	159,601	188,639	3,48,240

In this statement, the estimated 39,000 acres of the Tehri forest attached to the Dún are omitted.

Now that every stick of wood in the Dún can sell, it is necessary to introduce fire-conservancy into all the reserved súl forests, and it is hoped that the Forest Department will be allowed free scope in this respect; for the protection of the forests does not affect the grazing, at any rate as far as the forests within 10 miles of Dehra are concerned; as, owing to the large demand for thatching grass, the grass is cut down every cold weather and the fresh shoots which spring up after the early rains in April and May furnish admirable grazing.

During the rains, the whole Dún is a pasture-ground, and the cattle do not go far into the forests for fear of flies and tigers. Considering the very large area of

waste land attached to zemindaris and grants, there are few places in the Dún where grazing ground is scarce, and the successful arrangement with the villagers of Thano has been already referred to as a proof that a *modus vivendi* between villagers and the Forest Department is quite feasible. As a matter of fact, large tracts of forest in the Dún in which grazing has been allowed throughout the year have been successfully protected from fire, and without any complaint from the villagers either to the forest or district officers.

In the Saháranpur Division, the villagers all along the Siwáliks informed the Conservator that fires in the hills were most prejudicial to grazing, as the early rains had little effect on making the grass sprout, and if the hillsides were burned, their cattle would have no grazing-grounds in May and June. There can be no doubt that whilst, in the Oudh forests and further east, early burning of the forests is favourable to grazing, as we approach the Panjáb no grass springs up after forest fires till the first burst of the monsoon, and then, the whole of the plains being soon covered with verdure, grazing in the forests is not generally required.

In Jaunsár, except the fuel forests reserved for Chakráta and the small areas of deodar forest, the whole country is one grazing-ground interspersed with patches of cultivation; and the villagers pay no grazing dues and are practically masters of most of the large areas of second class unprotected forest, where they may lop and graze at will without paying any dues to Government. The burning of the grass in the hill forests loosens the stones and causes landslips, and in dry seasons the villagers are glad to cut grass for the cattle from our closed forests.

In the Chakráta Cantonment, where fires are not allowed and the grass is annually cut down, there is a splendid crop of grass.

In parts of the leased forests, consisting of karshu and firs above the deodar zone, grazing and lopping for fodder is freely permitted; and cattle and sheep have been allowed to graze experimentally in the Lambatách deodar forest for a portion of the year, in order to keep down the indigofera and desmodium.

Natural Reproduction.

32. There is little to add to what has been said in previous reports.

Tún seed failed in the Dún, the capsules being attacked by a caterpillar. There was a fair supply of sál seed.

The bamboo (*Dendrocalamus strictus*) is flowering gregariously over large areas and proceeding westwards, the flowered stumps dying down after seeding profusely and producing a dense growth of seedlings, which, now that the hillsides are protected from fire, should yield new clumps. But many years will elapse before they become mature, and in the meantime the bamboo crop will be greatly reduced.

In Jaunsár and Tehri-Garhwál, and apparently throughout the hills from the Sutlej to the Ganges, the larger ringál (*Arundinaria spathiflora*) blossomed in 1883-84, and the dead stems are everywhere to be found, whilst the seedlings are still very minute.

This year, the smaller ringál (*Arundinaria falcata*) is blossoming universally over the same tract.

The reproduction of sál, chír, kail, and deodar in fire-protected areas leaves nothing to be desired, wherever the undergrowth is not too dense to prevent the seed from germinating: 1885 was a good seed year for spruce and deodar.

There is a good deal of disease on the spruce in the form of a red fungus, which attacks the terminal shoots, and a similar disease has been noticed on the chír.

Artificial Reproduction.

33. The following figures show the result of the plantations for the past year :—

Regular Plantations.

Name of division.	Area in acres.				Receipts.	Expenditure during year.
	On 1st April, 1885.	Added during year.	Excluded during year.	Area on 31st March, 1886.		
	Acres.	Acres.	Acres.	Acres.		
Dehra Dún	7½	...	...	7½	...	948
Saháranpur	127½	2½	6	124	...	1,120
Jaunsár	1,368	32	...	1,400	..	1,371
Total ...	1,503	34½	6	1,531½	...	3,439

The plantations are as follows as regards species :—

	Acres.
Sál	31½
Sissu and khair	85½
Deodar, sometimes with kail or spruce	1,127
Oak	66
Spruce	4
Miscellaneous	207½
Total ...	1,531½

The only areas shown in Form No. 52 are those considered complete, but many of these areas in the hill forests are really cultural operations : artificial planting resorted to to aid natural regeneration in filling up small blanks.

Plantations in the Dún are chiefly experimental and are not generally required, owing to the splendid natural reproduction in protected sál forests.

It is, however, worth while attempting to stock some blanks above the Assarori-Kánsrao road with tún and other valuable trees, as these areas are included in the closed forest and are not required for grazing, and also to re-stock some blanks near Hardwár with bamboos, as there is a very large demand there ; and the natural clumps are likely to seed and die down, as they are now doing on the south side of the Siwáliks.

In the Saháranpur Division, plantations are required for the following purposes :—

(1) To re-stock blanks in the limited areas of sál forest under fire-protection.

(2) To introduce fast-growing species of fuel and timber trees into the coppice near Beribára, intended as a source of fuel-supply for Roorkee.

(3) To plant up a portion of the Patri forest which, from its position on the Hardwár-Saháranpur Railway, is very favourably situated for timber export. The total amount spent during the year was Rs. 1,120.

In the Jaunsár Division, it is necessary to stock the Chakráta fuel forests completely, and to sow or plant silver fir or spruce or oak on fellings where natural regeneration fails or is too long delayed.

It is also necessary to plant deodar on a large scale in all closed deodar forests, either alone amongst inferior species, or with kail on grassy slopes ; and a good system has now been introduced by which the plants will be once transplanted in a nursery, in order to get fibrous roots above the tap-root, and will be planted out into their final position when two years old.

In future, plants will be put out $5' \times 5'$, as deodar requires protection when young, and when closely planted the plants support one another and draw one another up.

It is doubtful whether all the works in the Jaunsár Division should not be included under cultural operations, as in many cases planting under cover to assist

material reproduction has been resorted to, and the blanks which are being planted out are of limited extent, the largest of which are Dhámpti, 200 acres, and Bodiár, 373 acres.

The total expenditure during the year has been Rs 1,357, which, however, wrongly includes the cost of collection of seeds for export

Nearly all the plantations in the Dun and Jaunsár Divisions were visited by the Forest School, and measurements made of the growth of the plants and percentages of successes and failures noted. A detailed account of the plantations in the Circle by the divisional officers is given in an appendix.

Landour Cantonment Plantation.

34 This is managed by the Commandant with the advice of the Conservator of Forests, and Lieutenant-Colonel Carwithen reports as follows:—

The following were planted out from the nurseries in the rains of 1885 —

100 deodar
200 oak

20lb of spruce and 50lb of deodar seed were received from the Jaunsár Division and sown in nursery beds in December, and this has germinated well The expenditure during the year was Rs 350, leaving a balance of Rs 736 out of the grant of Rs 5,000 allowed by Government in 1875. Mr Smythies inspected the plantation in Autumn, 1885 and considered it very successful

Forest Gardens.

35 As the Dehra Dún forest garden has been handed over to the Forest School, the garden at Chakráta is now the only one in the Circle.

The garden is used for experimental growth of exotics, to furnish ornamental trees and shrubs for the cantonment, and for a supply of grafts of good fruit trees to the Jaunsáris, and also for the sale of fruit to the soldiers The expenditure on it during the year amounted to Rs. 433, including Rs 60 on manure, an abundant supply of which is essential for the fruit trees, and arrangements to effect this are being made through the Cantonment Magistrate

The 274 fruit trees received last year from Ránikhet are doing well

A number of Eucalyptus species were planted out during the year, as well as the following pines —*P Laricio, sylvestris, Pinaster*, altogether 1,660 plants being planted out

The exotic pines require more space, with the exception of a few examples of each kind kept in the garden, they should be given to the Cantonment Magistrate, to be planted out about the station. These trees generally thrive well, but *Pinus khasya*, planted a few years ago, is already bearing cones, though only six feet high—a sign of unsuitability of soil or climate or both. *Quercus Cerris* is also thriving.

The Australian acacias and eucalypti suffer much from the snow, which breaks down their crowns, and in this respect are not likely to flourish in Chakráta, though they appear to vegetate vigorously.

Broussonetia papyrifera grows well at Chakráta, but not so vigorously as in the Dun, where it may have a future for paper manufacture.

Cutting of Climbers.

36 Rs 1,230 have been spent on this useful work in Dehra Dún

Mr Smythies is not clear about the area operated on in April and May, 1885, which is a pity, but gives exact details for the work done in 1886, which is as follows:—

	Acres cleared	Cost per sq mile Rs
Rámgarh	1 500	40
Chandrabani	3,054	64
Báhera	970	64
Thano	792	115
Total	6,316	

The cost naturally varies with the number and size of the climbers cut, and is much cheaper done by villagers than by Garhwális, and requires thoroughly efficient supervision.

Ranger Har Sarúp was in charge of the work in the Rámgarh forest, where the climbers were large and numerous and the expenditure was least of all; and the low cost is very creditable to him. The climbers are not killed by the operation, and the yearling shoots of the cut máljhan (*Bauhinia Vahlii*) are strong and long, but, at any rate, seeding is prevented. There is a certain demand for máljhan fibre for ropes, and Mr. Fernandez has suggested its being used for coarse paper.

No climbers have been cut during the year in the Saháranpur forests owing to shortness of funds, but this operation is much required in the areas of sál forest of Ganjarban and Lakarkót.

37. *Coppicing operations.*—Cutting back of inferior and injured poles on the site of last year's fellings in Ramgarh forest was carried out by the forest students in the Debra Dún Division, and all the stumps of the kokat trees made over last year to the Canal Department have been cut down flush with the ground and have sent up vigorous shoots, and so have the stumps of the 1,506 sál ballis delivered to the Canal Department this year.

In the Saháranpur district another compartment, 75 acres, of the Tira coppice was cleared by a contractor, who paid Rs. 300 for the produce, as against Rs. 145 paid for an equal area in 1884-85 and Rs. 100 in 1883-84; 273 standards being reserved, in which the following species are noted:—

Terminalia bellerica	...	...	...	...	82
Odina Wodier	...	...	...	...	49
Lagerstroemia parviflora	...	...	...	...	37
Holarhena antidysenterica	...	...	...	...	22
Other species	...	...	...	...	83
				Total	273

The coppice shoots from compartments I and II are growing fairly well, but suffer from frost and from being grazed down by deer, and a larger number of reserves will be made in future. To fill up blanks, transplants of various species from a nursery were planted out into compartment II, and this work will be continued yearly.

No compartment of the Korwa Ban coppice in Jaunsár was cut during the year; but it is a pity that work thus commenced should not be carried on, and next year the work will be continued as usual.

38. *Cleanings of kail over deodar.*—This work has been carried out in the Lohásu block, Kotigad range, where 80 acres were operated on by two Panjáb students at a cost of only Rs. 13.

At Kathían 260 acres were also operated on by three students at a cost of Rs. 14-6-0.

39. *Ringing inferior species in deodar forest.*—The fellings in Deota forest are now preceded by the ringing of firs, oaks and pines, so as to enable the deodar to spread their crowns and have more chance of seeding, and also to give more light on the ground for the developement of seedlings. The operation should be carried out several years before the fellings and should be accompanied by removal of low bushes, &c., and by rough preparation of the soil under the deodar trees.

During the present year 335 inferior species were *ringed* and 503 other trees marked for ringing by forest students.

40. *Tapping chir trees for resin.*—The experimental collection of crude resin and turpentine was continued in the Dharmigád and Cháttra blocks, the old cuts being deepened in the former trees and 20 new trees being tapped.

				Mds.	s.	c
The 20 Dharmigád trees yielded	...	...	...	1	24	13
And the 20 Cháttra trees	...	...	...	1	21	15

being about three seers per tree. An experiment was tried in manufacturing deodar oil at Deota, and eight maunds of deodar chips produced—

	Mds.
Charcoal	2½
Deodar oil (about)	2

whilst 80 maunds of wood were required to roast the chips.

The cost of the experiment was Rs. 11-4-0.

41. *Treatment of bamboos.*—The blocks of bamboos in the Saháranpur Division are opened in the order prescribed by the rotation scheme. The result of the rest afforded for two years to each block is very apparent in the improved quality of the produce exported.

The Rauli block was worked departmentally for six weeks and then closed, as the clumps were blossoming, and it was feared that the cutting would injure the reproduction.

Mr. Smythies has proposed to introduce Mr. Greig's plan of leaving four culms in each clump of bamboos in the bamboo-cutting in Tehri-Garhwál, where the clumps are deteriorating.

Communications and buildings.

42. *Expenditure.* The expenditure on roads and buildings was as follows as compared with that of previous years:—

	Roads and buildings.	Buildings.	Other works.	Total.
1882-83	8,871	18,192	786	27,849
1883-84	9,098	10,289	1,817	21,204
1884-85	10,943	8,714	1,130	20,787
1885-86	5,710	9,020	875	15,605

43. *Roads and bridges.*—Rs. 4,541 is the cost of repairs of existing roads and paths. The repairs of paths in the School compound cost Rs. 19, of which Rs. 17, cost of preparing two wooden bridges, was charged to "other works."

The construction of about 16 miles of new roads and paths cost Rs. 1,184.

The following table gives the length of roads and paths in the Circle:—

Description of road.	*Length in miles.*			Total.	Remarks.
	Dehra Dún.	Saháranpur.	Jaunsár.		
Cart roads, 20 feet ...	12	12	...	24	
Ditto, 15 „ ...	104	30	...	134	
Ditto, 12 „ ...	35	1	...	36	
Ditto, 10 „ ...	35	16	...	51	
Bridle-paths, 6 „ ...	63	1	127	191	
Foot-paths, 3 to 4 „ ...	69	2	329	400	
Total ...	318	62	456	836	

Dehra Dún.—The repairs of existing roads cost Rs. 2,342 and the construction of 15 miles new roads cost Rs. 1,049.

These figures are nearly the same as those given in last year's report.

The principal new 20 and 15 feet roads constructed are as follows :—

	Miles	Chains.
Mathronwala-Madhowala road, by forest students	1	35
Thâno-Dehra road	1	6
Kânsrao to Kansrao Pass	0	75
Clearing trees and stumps on Hâthwala road in Western Dun	6	40

The road made by the forest students is 26 feet wide and 1 mile 35 chains, cost Rs. 466; to this must be added Rs 41 as cost of laying out about seven miles of it.

The Thâno-Dehra road, in length 1 mile 6 chains, cost Rs. 105

Besides the expenditure mentioned above, a sum of Rs. 156 was contributed by the District Board for the repairs of 3rd and 4th class roads

Saháranpur.—The following statement shows the length of roads repaired during the year, no new roads being constructed :—

Description of road	*Length in miles*		Cost.	Remarks.
	Constructed	Repaired		
		Miles. Chains	Rs.	
Cart-road, 20 feet	...	11 27	...	
Ditto, 15 ,, ...	...	30 33	49	
Ditto, 12 ,, ...	...	1 20	...	
Ditto, 10 ,, ...	...	16 37	100	
Bridle path, 6 ,, ...	...	1 27	...	
Foot path	. .	1 40	...	
Total ...	...	63 4	149	

This does not include Rs. 257 contributed by the District Board and spent on the repairs of the Hardwár-Khára road.

Jaunsár.—The following statement shows the work on roads in the Jaunsar Division :—

Description of road.	*Length in miles*		Cost.
	Constructed.	Repaired.	
	Chains.	Miles.	Rs.
Bridle paths, 4 to 6 feet	68½	127	2,168
Foot paths under 4 ,, ...	...	145½	
Miscellaneous	...	...	

Rs 161 were spent on repairs of the Deota sledge-road, which has proved very successful, the rate per sleeper taken down being now reduced to 3 pies as against 1 anna on men's backs. Rs. 28 was spent on repairs to a pier of the Arakót bridge.

Rs 93 were spent on repairs of the Dátmir bridge, which was completed, except a short length of the handrail. Rs. 300 supplied by the District Board were spent on repairs of the Chakrata-Tiuni road.

44. *Buildings*.—The expenditure on buildings may be thus distributed—

	1884-85	1885-86.
Repairs to existing buildings	2,807	4,466
Construction or purchase of office buildings		1,000
Construction or extension of officers' rest-houses ...	2,887	1,198
Ditto of rangers' and forester's houses	1,409	...
Construction or extension of forest guards' chaukis and other buildings	1,521	2,359
Total ...	8,714	9,023

The expenditure incurred in the different divisions is thus accounted for—

Direction.

	Rs.
Purchase of the old Telegraph-office for the head-quarters office of the Sahéranpur Division	1,000
Additions and alterations to the main building, &c., executed by the Public Works Department	893
Rack for tents in the godown	83
Petty repairs to main buildings	29
Total	2,005

Dehra Dún.

Repairs to existing buildings	965
Construction of rest-house at Karwapáni	198
Construction of foresters and revenue chaukis	99
Construction of out-houses and stables	45
Clearing site for Phándowala rest-house	63
Total	1,370

Sahéranpur.

Repairs to existing buildings	764
Construction of revenue chaukis	918
Total	1,682

Jaunsár.

Repairs of existing buildings	1,729
Construction or extension of officers' inspection bungalows ...	892
Forest-guards' houses and other buildings	1,342
Total	3,963

The construction of 32 forest students' quarters at Dehra has been already referred to, but the funds for these buildings were not provided from this Circle.

The old Telegraph-office at Dehra at the gate of the Forest School was acquired, with its site and out-houses, for Rs. 1,000, and is now used as the office of the Sahéranpur Division, Rs. 101 being spent on repairs. As an office rent of Rs. 30 per mensem was previously charged, the cost of the building will be recouped in three years. It will be an advantage, if the present building were replaced by a substantial office for the Dehra Dún and Sahéranpur Divisions, and another Rs. 360 per annum of office rent would then be saved, and a more convénient site provided for an important public office than as at present in the divisional officer's bungalow.

A stone and brick building to serve as a revenue chauki and quarters for forest-guards was erected at Mohand on the Sahéranpur-Dehra road at a cost of Rs. 918; as nearly all the revenue of the division passes through this chauki, and forest subordinates live there throughout the year, it was as well to erect a substantial building.

A small rest-house for the Morách forest in Jaunsár was erected at a cost of Rs. 486.

A substantial block of buildings with four rooms for office chaprassis and servants and one room as a store-godown was erected at Deoban at a cost of Rs. 898.

The other buildings erected do not call for any remark.

Exclusive of the buildings of the Forest School and students' quarters, the following is the list of buildings in this Circle :—

Buildings constructed and maintained in the Circle during 1885-86.

Description.	For use of—		Offices, stores, &c.	Wells.	Total.
	Officers	Subordinates.			
Direction.					
Permanent	...	2	3	...	5
Semi-permanent	...	1	1	...	2
Temporary	...	4	...	...	4
Total ...	...	7	4	...	11
Dehra Dún.					
Permanent	6	6	...	2	14
Semi permanent	4	24	...	...	28
Temporary	14	27	2	...	43
Total ...	24	57	2	2	85
Sahárunpur.					
Permanent	3	1	...	5	9
Semi permanent	...	3	...	...	3
Temporary	...	17	...	...	17
Total ...	3	21	..	5	29
Jaunsár.					
Permanent	12	10	4	...	26
Semi-permanent	4	16	5	...	25
Temporary		4	6		10
Total ...	16	30	15	...	61
GRAND TOTAL ...	43	115	21	7	186

45 *Other works.*—The total expenditure in the Circle on other works was Rs. 875, of which Rs. 59 were spent on the Forest School compound, in levelling, repairs of gates, bridges, &c.

Rs. 475 were spent on completion of the Bulawala well, which has thus cost Rs 696 and now yields a good supply of drinking water which was much required there, and Rs. 4 on repairs to the Pardani well; whilst Rs. 65 were spent in the Saharanpur Division on construction of temporary wells and clearing out the Dholkhand well.

Rs. 35 shown under this head for constructing an elephant's shed at Mohand should have been charged to building, A.VII.b.

CHAPTER IV.

Yield and Working.

Departmental Operations.

46. *General remarks.*—The chief departmental operations undertaken during the past year have been as follows :—

Dehra Dún Division.—Supply to the Canal Department of 1,500 sál ballas and about 650 scores of kokat ballas, ballis, and tors. Collection of drift-timber in the Ganges river from Lachman Jhula to Garhmuktesar.

Sahárunpur Division.—Improvement felling in the Lakarkót block.

Jaunsár Division.—Supply of 50,215 sleepers to the Bombay, Baroda, and Central India Railway. Supply of 82,931 cubic feet of fuel to the Commissariat Department at Chakráta. Supply of planking and scantlings to the Executive Engineer, Chakráta.

47 *Supply of timber to Irrigation Department from Dehra Dún Forests*—The sal ballas 21 feet long and 24 inch girth at the base were cut in the Motichur forest and were delivered to the Canal Department at Patri for the works connected with the silting up of the Patri nála The cost of this operation was Rs 2,041 and the revenue received Rs. 5,250, representing a price of Rs 2 each for the poles

The expenditure, however, will be shown in the accounts for next year, the price, being paid in advance by the Canal Department The 650 scores kokat poles were cut in the Kansrao and Tirsáli forests for the *bunds* at the head of the Ganges Canal above Hardwár The indent was received late, and the Executive Engineer rejected 132 scores of timber, many of which had been passed and marked with the Canal mark and were, as Mr Smythies says, faultless; the reason given for the rejection was that they were received late. The work was done through a contractor, who had endless disputes with the Canal subordinates, and during the present year, Mr Smythies is dealing directly with the Executive Engineer, and, as he states, without friction

The cost of the delivery of 651 scores to the Canal Department was Rs. 3,411 and the revenue paid was Rs 7,836, of which Rs. 5,900 only was paid before the end of the financial year. Thus, the net price received per pole is about 5 annas. The 132 scores of rejected timber were sold by auction for Rs. 454

In order to meet this annual demand of the Canal Department, it is proposed to work the newly-leased Tehri forests as a stored coppice, the better kinds of timber being reserved as standards for timber. The forest thus treated will of course be protected from fires and grazing, and this regular treatment of these very accessible forests and the steady demand on them will greatly increase their value in the future, as only the inferior species are being removed.

48. *Collection of drift-wood from the Ganges river*—As a result of the Ganges river drift timber operations under Babu Karuna Nidhán Mukerji, with the assistance of Forester Ram Narain and forest-guards from the Dehra Dun and Saháranpur Divisions, who can be spared for the work in the rains, the following timber was collected —

	Number	*Cubic feet*
Logs	326	3,816
Scantlings	361	509
Tors, poles, &c.	509	929
Miscellaneous	257	470
Bamboos	1,220	4
Fuel (mds)	22,130	4,260

The cost of the collection of this timber was Rs. 4,366 and it realized Rs 7,609 on being sold

The extension of the control of the department over the Ganges drift to Garhmuktesar and the prohibition to remove other than headloads by the riparian villages has been already referred to.

There is an annual demand for 60,000 maunds of fuel for the Canal Foundry at Roorkee, but as this factory is shortly to pass into private hands, this demand is uncertain Besides the drift collected departmentally, about 500 pieces of timber were made over to various claimants who paid salvage fees of Rs 41.

49 *Improvement fellings in Lakarkót Forest*—The improvement fellings began last year in compartment I, Lakarkot block, in Saháranpur, were completed in the cold weather, and work was then commenced in compartment 11, and resulted in 11,266 cubic feet of timber, principally in the forms of karis, tors, and ballas being worked up, of which 6,784 were sold for Rs. 2,525 and the rest remained unsold at the close of the year.

50. *Fuel works for Chakráta*—There is little now to add regarding the fuel works for Chakráta. The raising of the rates charged to the Commissariat Department

was referred to in last year's report; little saving in the cost of these works can be effected, until a sledge-road has been constructed between Deoban and Chakráta, which Mr. Hobart-Hampden will commence during the coming monsoon.

Rs. 892 were, however, saved on the carriage of 94,810 cubic feet this year, by a reduction of 2 annas per cubic foot in the rate paid for carriage of 100 cubic feet per mile.

The godowns used for stacking the fuel are still unpaid for by the Commissariat Department, though Rs. 2,744 are due to us on that account.

51. *Loss of weight in stacked firewood.*—The loss of weight experiment was again made, with the following result:—

Year.	Cubic feet.	Weight.	
		Mds.	seers.
1883	2·270	769	39
1885	2,139	599	37
1886	2,060	570	22
Loss of weight in three years ...	...	119	17

It was noticed last year that the 1884 measurements were incorrect.

52. *Sleeper works on the Tons river.*—The number of sleepers sawn in the year at Deota and Raiengarh was 44,311 at a cost of Rs. 9,083, whilst at Thadiár there was a balance of 10,096 and of 4,142 at the Pábar Depôt. Forty-eight thousand six hundred and sixty-one sleepers were conveyed from the forests to the river at a cost of Rs. 9,813; 54,422 sleepers were launched at Thadiár and the Pabár Depôt; 53,155 sleepers (including 695 other old scantlings) reached Dákhpathar, the direct cost of floating which was Rs. 1,077. The rafting to Delhi was begún, but was not finished by the end of the financial year. The figure for rafting to Delhi amounted to Rs. 4,546, of which Rs. 3,449 appear in 1886-87.

Seventy thousand eight hundred and forty-six sleepers were paid for by the Rajputána-Málwa Railway during the year, of which 20,631 represent sleepers delivered during 1884-85, but not paid for then; the total amount paid during 1885-86 amounts to Rs. 1,32,710.

53. *Trees felled.*—The number of trees felled, as compared with previous years, is as follows:—

Year.	*Selection fellings.*		*Clearances.*		*Thinnings.*		*Total*	
	Number.	Cubic feet.	Number.	Cubic feet.	Number.	Cubic feet.	Number.	Cubic feet.
1882-83 ...	1,898	2,71,709	...	...	208	11,942	2,106	2,83,651
1883-84 ...	1,459	1,84,689	...	...	287	33,967	1,746	2,18,656
1884-85 ...	2,298	2,29,358	1,785	9,000	9,997	43,677	14,080	2,82,035
1885-86 ...	4,788	2,24,569	...	...	22,522	48,148	27,310	2,72,717

Of the trees felled in the selection fellings 2,323, mostly sál, were from the Dún forests, and the rest for the various works in the Jaunsár Division. The Dún trees, except 323 cut for departmental use, chiefly for building, were all for the Irrigation Department.

Of the thinnings, three quarters were poles for the Ganges Canal, cut in the Dehra Dún Division, and the balance, except 35 oaks felled in Jaunsár, were the results of the Lakarkót improvement fellings in Saháranpur.

There were no clearances during the year.

The average cubic contents of trees felled is as follows in the different divisions :—

Division.	*Selection fellings.*		*Thinnings.*		*Average.*	
	1884-85.	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.
Dehra Dún	5·2	5·8	5	1·7	5·1	1·87
Saháranpur	...	...	1·2	2·8	1·2	2·8
Jaunsár	134·8	85·63	54·4	30·0	...	83 77

That for the Circle being 9·98 as compared with 20·1 cubic feet for last year.

This great reduction in the size of the trees felled is due to the large number of small trees felled in Dehra Dún and Saháranpur Divisions and to the smaller size of the trees felled in the hill forests.

As regards species, the selection fellings, as compared with last year's figures, are :—

	1884-85.	1885-86.
Sál	... 411	2,219
Sain	... 12	2
Tún	... 21	67
Sissu	... ...	...
Deodar	... 928	1,744
Fir and pine	... 461	330
Oak	... 265	333
Boxwood	... ...	1
Miscellaneous	... 200	92
Total ...	... 2,298	4,788

Whilst the thinnings give :—

Sál	... 9,277	6,550
Deodar	... 1	...
Fir and pine	... 298	...
Oak	... 246	85
Various	... 175	15,887
Total	... 9,997	22,522

Trees marked for the works of 1886-87.—Nine hundred green and 121 dry d eodar trees were marked in the Deota forest for the sleeper works of 1886-87, of which 650 trees were felled during the year 1885-86.

54. *Outturn of timber and other produce removed by departmental agency.*—The outturn of the forests in the Circle for 1885-86 and the previous year as compared are as follows: —

Description of produce.	1884-85.		1885-86.	
	Quantity.	Value in rupees.	Quantity.	Value in rupees.
Timber ... ... (C ft.)	62,701	35,386	1,10,453	75,252
Poles and saplings ... ... (No.)	9,290	4,419	41,443	14,771
Bamboos ... ... (Scores)	...	...	1,220	20
Firewood ... ... (C. ft.)	1,03,914	14,096	2,49,852	28,479
Charcoal ... ... (,,)	...	...	2,552	400
Total ...	...	53,901	...	1,18,922

The increased outturn is due to the works in Dehra Dún and Saháranpur, and to double the quantity of firewood being delivered in Chakráta as compared with the previous year, when the Commissariat Department had a large balance in hand.

The deodar trees felled for sleepers yielded 34·7 per tree as compared with the following averages :—

	Number of sleepers per tree.
1881-82	60
1882-83	63
1883-84	64
1884-85	35·5
1885-86	34·7

This falling off is due to the inferior size and quality of the trees now being felled, and perhaps to the rocky nature of the site of the fellings and consequent breakages.

55. *Accounts of timber and other produce removed from the forests.*—The following table shows the timber transactions of the year :—

Receipts.	Timber.	Firewood.	Charcoal.	Bamboos
	C. feet.	Cubic feet	C. feet.	Number.
Balance in hand at commencement of the year ...	58,328	58,487 (solid) = 73 236 (stacked)	2,744	...
Received in depôts	184,257	100,520	40	...
Ditto from the departmental collection of drift-timber	5,956	56,422	...	1,220
Ditto from the forests and sold locally ...	..	91,671	2,512	...
Ditto from the forests and used by Department,	8,338	...	...	...
Disposals.				
Sold from depôts	148,626	95,970	2,307	...
Do. locally	..	91 671	2,512	...
Do. (Ganges drift timber)	5,790	78,146	...	1,220
Otherwise disposed of	28,081	470	2	...
Total ...	182,497	261,257	4,821	1,220
Balance at close of the year	74,382	60,642	475	...
GRAND TOTAL ...	256,879	321,899	5,296	1,220

The balance at close of the year consists of the following items :—

Division.	Timber.	Firewood.	Charcoal.
	Cubic feet.	Cubic feet.	Cubic feet.
Dehra Dún	151	12,162	...
Saháranpur	14 945	..	...
Jaunsár	59,286	48,480	475
Total ...	74,382	60,642	475

The balance consists principally of unsold poles from the Lakarkót fellings in Saháranpur, and metre-gauge sleepers at Rampur-Mandi and Thadiár, and deodar and fir scantlings at Chakráta ; whilst the firewood unsold is the proceeds of the Ganges drift operations and Commissariat fuel at Chakráta.

56. *Sales to public Departments.*—The following table shows the results as compared with the previous year and the average of the last six years :—

Year.	Amount of Revenue.			Cost to Forest Department.			Surplus.
	Due.	Received.	Outstanding.	Timber expenses, A I.	Quota of other charges.	Total.	
	Rs.	Rs	Rs.	Rs.	Rs	Rs.	Rs.
1884-85	57,821	57,821	...	32,467	6,171	38,638	19,183
Average last 6 years (1879 to 1884-85).	1,16,591	1,15,840	751	72,537	13,072	85,609	30,982
1885-86	1,84,132	1,84,132	...	60,617	11,192	71,809	1,12,323

Besides the sales to the Irrigation Department in the Dehra Dún Division already referred to, the following sales to public departments took place in the Jaunsár Division :—

(i) 70,816 metre-gauge deodar sleepers to the Rajputána-Málwa Railway, but of this number 20 631 were sleepers of the year 1884-85, which were only paid for during this year, while 50,215 of this year were examined and accepted by a Railway Engineer at Dákhpathar and were paid for, although they were not actually handed over to the Railway within the financial year. This gave Rs. 1,32,710.

(ii) 3,343 cubic feet of scantlings to the Military Works at Chakráta, Rs. 5,894.

(iii) 14,410 cubic feet of fuel to the same Department, Rs. 1,302.

(iv) 82,931 cubic feet of fuel to the Commissariat at Chakráta, Rs. 16,646.

(v) 2,800 rejected sleepers to the Executive Engineer, Ajmere.

57. *Other sales.*—The departmental sales other than those to public departments were as follows :—

In Dehra Dún Rs. 6,567 were realized as follows :—

			Rs.
Timber	Cubic feet	4,814 ...	1,956
Poles, &c.	No.	982 ...	410
Firewood	Cubic feet	44,260 ...	4,181
Bamboos	No.	1,220 ...	20

In Saháranpur, 6,784 cubic feet of timber were sold for Rs. 2,525.

In Jaunsár, the Chakráta bazár rate for fuel was increased from December, 1885, as follows :—

Oak, from Rs 10 to Rs. 15 per 100 cubic feet.
Fir „ „ 8-5-4 to Rs 12 „ „

A total revenue of Rs. 6,527 was realized as follows :—

	C. feet.	Rs
Fuel	18,169	2,206
Timber	7,175	3,991
Rejected sleepers, &c., at Delhi and Dákhpathar and Ilásár	988	330

Removal of produce by purchasers.

58. *Trees felled.*—The following statement shows the trees felled by purchasers as compared with previous years :—

Year.	*Selection fellings.*		*Thinnings.*		*Total.*	
	Trees.	Cubic feet.	Trees.	Cubic feet.	Trees.	Cubic feet.
1882-83	3,334	169,608	3,743	44,916	7,077	214,524
1883-84	1,232	44,430	4,938	98,760	6,170	143,190
1884-85	5,813	713,383	11,115	103,826	16,928	817,209
1885-86	2,036	223,170	19,686	74,789	22,622	297,968

The trees felled are distributed as follows as regards species :—

	Selection fellings.	Thinnings.
Sál	4	16,430
Sain	...	3,256
Sissu	32	...
Fir and pine	1,514	...
Deodar	924	...
Boxwood	247	...
Miscellaneous	215	...
Total ...	2,936	19,686

The sál, sain and sissu and 202 miscellaneous trees were from the Dún Division, and all the others from Jaunsár.

The falling off in selection fellings is due to hardly any selected trees of sál and sain being now sold in Dehra Dún, and to a large falling off in the sale of chír trees in Jaunsár.

All the thinnings are of sál and sain in Dehra Dún, and their reduced cubic contents is due to the smaller size of the trees felled.

59. *Produce removed*.—The amount of produce removed by purchasers during the year is exhibited as follows, as compared with the previous year :—

Produce removed.	1884-85.		1885-86.	
	Quantity.	Value.	Quantity.	Value.
		Rs.		Rs.
Timber ... ... (Cubic feet)	891,955	72,537	328,226	68,404
Poles and saplings ... (No.)	27,722	5,857	34,440	8,668
Bamboos ... ... (Scores)	120,575	12,099	180,065	22,423
Firewood ... ... (Cubic feet)	624,297	15,539	473,927	10,900
Charcoal ... ... („)	850	80	3,088	368
Grazing dues	...	21,827	...	21,600
Minor produce	...	15,863	...	14,809
Total ...	...	1,43,802	...	1,47,167

It will be seen that the reduced value of the produce removed is mainly under timber and firewood, there being a small falling off under minor produce due to less semla gum being sold and a falling off in the lease of limestone in the Dún and a trifling one under grazing dues, whilst there is a large increase under bamboos both from the Dún and Saháranpur forests.

The annual auction sales of forest produce were held as usual at Dehra in the month of August and were well attended, the results of the sales having been already given.

The sales of standing deodar trees from the Tehri-Garhwál forests in the Jaunsár Division to Hari Dás have been already referred to : such sales are prejudicial to our interests, as only a very inadequate price of the trees is obtained, and the sleepers brought down by the purchasers help to flood the market, already overstocked with timber from the forests of the Hill Chiefs, which they are selling as fast as they can at very low rates ; and they hinder the sale of our own sleepers, a steady demand for which is essential, if our forests are to continue to be worked on a proper system.

In future it will be far better for us to work out all deodar departmentally.

Free grants of forest produce.

60. *Trees felled*.—The following table shows the number of trees felled and given to villagers during the last four years' :—

	Selection fellings, &c.	
		Cubic feet.
1882-83	5,111	561,778
1883-84	11,965	1280,732
1884-85	5,988	466,080
1885-86	1,450	107,040

besides 1,562 cubic feet of other deodar scantlings and pieces and 400 cubic feet of kukat tors in the Jaunsár Division.

The species given are as follows as compared with those of last year :—

	1884-85.	1885-86.
Sál	66	84
Deodar	834	247
Fir and pine	4,933	1,009
Oak	78	21
Other trees	72	89
	5,988	1,450

Except 25 sál trees from the leased Tehri forests given to the Mahant of Rikhikesh for repairs of his temple in the Dun, all the free grants are from the Jaunsár forests, where there is a considerable falling off as compared with former years, which, as regards the firs and pines, is merely nominal, as, since the demarcation of the Basháhr forests, the villagers are allowed to take what they like from the undemarcated forests, and no record is kept of their requirements.

The falling off in the number of deodar trees is due to the enforcement of the rule, referred to in last year's report, as regards the use of the saw in converting free grants of deodar trees, as only 18 out of 39 villages (*khatts*) removed their free grants of timber during the year.

61. *Produce removed by villagers.*—The following statement compares the produce removed by villagers with that of the previous year :—

Description of produce.		1884-85.		1885-86.	
		Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.
Timber	(Cubic feet)	469,543	9,556	108,485	9,748
Poles and saplings	(")	361	36	440	27
Bamboos	(Scores)	5	1	...	...
Firewood	(Cubic feet)	...	...	13,210	188
	Total	...	9,593	...	9,963

The falling off in quantity has been already explained, and the increased value shown is due to the value of deodar trees having been in former years underestimated, which I have this year put at Rs 20 each for the forests near Chakráta.

The fuel shown as removed is an estimate of the headloads given to villagers free of charge in the Dún. The quantity removed by border villages along the Ganges and Jumna rivers is not known.

Summary of produce removed from the forests.

62. *Statements prescribed by Government.*—The general statements prescribed by Government are given in Appendices B., C., and D., and, as they simply give total of figures already explained, need no further reference here.

Exports and imports of forest produce.

63. There is little to add to the remarks made under this heading last year. Considerable correspondence has taken place with the Bombay, Baroda, and Central India Railway regarding a proposal to conclude a three-years' agreement for the delivery of one lákh of sleepers to the Company at Delhi, and this has been concluded at Rs. 1-11-0 per sleeper since the close of the year.

The sleepers will be branded at our Depôt, Dákhpathar, by an Assistant Engineer, and the Railway will then accept all such branded sleepers delivered unbroken at Delhi.

The Manager of the North-Western State Railway issued a circular stating that he wished all his sleepers to be prepared in India in future, and that he was willing to buy firs and pines as well as deodar.

I requested him to inform me what number of broad-gauge deodar sleepers he would take annually at Rajghát on the Jumna river, and what price he would pay for them, but have received no reply to this enquiry.

I have already explained that we have been following a wrong policy of late years in selling standing deodar trees to purchasers.

I note that 18 kail trees have been felled for tea-boxes for planters in the Dún; but Mr. Hobart-Hampden has made no further remarks on the subject, and there is little profit to be made from this supply, as stated last year.

Nothing more is said about experiments to meet the demands for cask staves for the Mussoorie Breweries, which I have again brought to the notice of the Jaunsár Forest Divisional Officer.

For some reason or other the demand for chír timber has fallen off again, and we have only sold 1,489 trees from the Jaunsár forests, whilst I have only heard of a small sale of a few hundred chír trees at Rs. 3 each from the Tehri-Garhwál forests on the Jumna river, now solely managed by the Rája of Tehri. First class spruce planks are now supplied by us to the Executive Engineer at Chakráta, and considering the enormous demand for Norwegian spruce, which that from the Himalayas closely resembles, it is strange that we have no demand in the plains of India for such wood for packing-cases, &c.

There has been an active demand for boxwood from the hills, and large exports from a private forest in Sakliána have passed through the Dún. We have only a few small tracts of boxwood forest left since the surrender of the Tehri forests, and these will be carefully conserved.

There is nothing new to add about the Dún forests: the demand for small timber continues, and, as a result, our forests are gradually being cleared of inferior material.

There has been a falling off in the demand for lime during the year, as I have already stated.

In Saháranpur, there is a considerable demand for small timber for native buildings and there is a large market for bamboos, but the seeding and death of the culms over very large areas will restrict the supply for several years.

Owing to the supply from the extensive Canal plantations, the demand for fuel from the Saháranpur forests is very limited.

There has been a large demand for boulders for metalling on the Hardwár-Saháranpur line, and the metalling is carried away to different parts of the Oudh and Rohilkhand Railway.

The royalty paid is Rs. 2-8-0 per stack of 1,000 cubic feet.

Stock.

64. The statement showing the value of stock is given in an appendix. Its value is Rs. 1,55,883, as compared with Rs. 1,72,400 at the commencement of the year, and shows a falling off of Rs. 16,567, due to a decrease in—

						Rs.
Dehra Dún	...	...	...	...	...	1,913
Jaunsár	...	...	...	...	...	20,327
Direction	...	...	...	...	...	42
				Total	...	22,282

whilst in Saháranpur there is an increase of Rs. 5,765. The falling off is mainly owing to the sale of sleepers, Rs 25,331, and firewood, Rs. 2,232, in Jaunsár, and of drift firewood, Rs. 2,230, in Dehra Dún. The increase in Saháranpur is Rs 3,616, value of unsold timber from Lakarkót, and Rs. 2,149, increased value of buildings and implements. The value of buildings and stores has also increased by Rs. 4,822 in Jaunsar and Rs. 323 in Dehra Dún. Mr. Clifford reports that considerable deterioration of stock has occurred of late years, owing to workmen from the village returning old iron hoes instead of Government ones supplied for works, and measures will be taken to prevent this in future.

CHAPTER V.

Financial Results.

Receipts and Expenditure.

65. The financial results of the year under receipts and expenditure compare as follows with those of the four previous years :—

Division.	Receipts.					Expenditure.				
	1881 82.	1882-83.	1883-84.	1884 85.	1885-86.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Dehra Dún...	64,068	53,271	64,948	81,798	99,654	31,489	44,929	54,830	56,367	55,654
Sahárampur,	38,236	32,720	36,906	35,831	42,010	15,188	20,476	25,228	26,198	23,209
Jaunsár ...	1,48,432	1,28,472	1,61,645	1,84,992	1,94,647	2,76,525	1,39,361	1,58,219	99,415	1,04,963
Direction ...	175	507	8,071	180	338	63,511	58,403	48,501	25,252	23,017
Total ...	2,50,911	2,14 970	2,71,565	3,02,801	3,36,649	3,86,813	2,63,669	2,86,778	2,07,432	2,06 843

Division.	Surplus.				
	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.
	Rs.	Rs.	Rs.	Rs.	Rs.
Dehra Dún	+32,579	+8,342	+10,118	+25,431	+44,000
Sahárampur	+23,048	+12,244	+11,678	+9,633	+18,801
Jaunsár	—1,28,093	—11,389	+3,426	+35,577	+89,684
Direction	—63,436	—57,879	—40,430	—25,272	—22,679
Total ...	—1,35,902	—48,699	—15,313	+95,369	+1,29,806

Compared with the previous year, an improvement is shown in the revenue of each of the three divisions. There is a small decrease of expenditure in the plains' divisions, which, considering the largely increased area under fire-protection and the increased departmental timber works, is creditable to the divisional officers. In Dehra Dún there was also a substantial increase, Rs. 1,800, in the rent paid to the Tehri Rája.

The increased expenditure in Jaunsár is thoroughly accounted for by the increased rent of the Tehri forests Rs. 4,500, and the larger number of sleepers sawn up, giving an excess of Rs. 9,085 under A.I. There was also a considerable expenditure on working plans of the Tehri-Garhwál forests, being Rs. 2,020 under "A" and Rs. 2,697 under "B," the latter being chiefly Mr. Hearle's pay and travelling allowance whilst conducting the working plans.

Under these circumstances, the savings which have been effected under other heads are very creditable.

All but Rs. 7 of the saving, Rs. 2,435, in the Direction Division was under B, and is due to Mr. Moir having drawn salary and travelling allowance as Conservator for three months last year, as well as Mr. Fisher, whilst there have been no supernumerary officers this year attached to the Direction Division, except Mr. Hearle, during the monsoon. There is also a saving due to the second Clerk of the Direction office being transferred to the Forest School.

The surplus of the Circle has increased from Rs. 95,369 to Rs. 1,29,806.

Sources of revenue.

66. The receipts are derived from the following sources, which speak for themselves :—

Division.	Timber and other produce removed from the forests by Government agency.					Timber and other produce removed from the forests by consumers and purchasers.					Confiscated, drift and waif wood.				
	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1881-82	1882-83	1883-84.	1884-85.	1885 86.	1881-82.	1882-83	1883-84.	1884-85.	1885-86.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Dehra Dún	230	...	...	5,600	13,539	59,950	52,043	61,698	69,724	74,793	3,596	948	2,369	6,948	11,070
Sahárunpur	46	...	...	2,525	3,224	36,682	28,784	36,581	32,383	38,017	1,346	3,124	79	2	...
Jaunsár	1,28 675	1,13,145	1,43,616	1,43,234	1,64,154	8,723	7,474	5,099	30,864	20,265	183	171	154	190	58
Direction	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	1,28,951	1,13,145	1,43,616	1,50,759	1,80,917	1,05,355	88,301	1,03,378	1,32,971	1,33,075	5,125	4,243	2,602	7,140	11,128

Division.	Revenue from forests not managed by Government.					Miscellaneous.					Total.				
	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1881-82.	1882-83.	1883-84	1884-85.	1885 86.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.
	Rs.	Rs.	Rs.	Rs	Rs.	Rs.	Rs.	Rs	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Dehra Dún	...	...	...	4	...	292	280	876	122	252	64,068	53,271	64,943	81,798	99,654
Sahárunpur	...	...	...	...	...	162	812	246	921	769	38,236	32,720	36,906	35,831	42,010
Jaunsár	*5,521	*7,011	*11,815	*8,780	*9,517	5,330	671	961	1,924	653	1,48,432	1,28,472	1,61,645	1,84,992	1,94,647
Direction	...	...	...	...	...	175	507	8,071	180	338	175	507	8,071	180	338
Total ...	5,521	7,011	11,815	8,784	9,517	5,959	2,270	10,154	3,147	2,012	2,50,911	2,14,970	2,71,565	3,02,801	3,36,649

* Proceeds of Jumna river timber-collecting and rafting dues.

Expenditure under A and B.

67. The following table shows the expenditure under the two main heads, A.—Conservancy and works ; B.—Establishments :—

A.—Conservancy and works.

Division.		Timber and other produce removed from the forests by Government agency.	Timber and other produce removed from the forests by purchasers	Confiscated, drift and waif wood.	Revenue from forests not managed by Government.	Revenue from leased forests.	Live stock, stores, tools and plant.	Communication and buildings.	Demarcation and improvement.	Miscellaneous.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Dehra Dún	1881-82	48	617	34	...	1,851	2,369	3,200	7,178	1,025	16,322
	1882-83	9	953	153	...	1,851	1,985	7,419	8,913	3,416	24,804
	1883-84	11	1 460	...	...	1,851	2,276	10,315	10,333	2,049	28,289
	1884-85	55	4762	4,128	...	1,851	1,475	8,156	11,159	2,519	34 105
	1885-86	4,988	5,749	4,367	...	3,351	985	5,240	7,266	1,609	33,555
Saháranpur	1881-82	145	5,086	186	...	...	810	410	2,705	984	10,326
	1882 83	...	5,160	16	...	...	807	2,991	5,658	250	14,282
	1883-84	...	4,607	40	...	...	1,084	1,964	6,909	186	14,790
	1884-85	1,629	4,629	...	...	...	813	1,841	6,590	153	15,865
	1885-86	1,610	4,479	...	...	...	718	1,896	4,258	378	13,339
Jaunsár	1881-82	2,27,394	...	...	...	6,650	554	8,748	4,259	5,573	2,53,178
	1882-83	97,296	...	...	930	6,650	501	7,993	4,270	670	1,18,310
	1883-84	1,10,906	...	...	1,128	6,650	544	8,428	3,942	1,582	1,33,810
	1884-85	50,010	...	...	3,575	6,650	1,064	9,073	4,482	1,101	76,805
	1885-86	53,261	...	...	1,648	11,150	158	6,402	6,257	650	79,526
Direction	1881-82	...	...	...	...	...	...	5,911	12,268	1,584	2,876
	1882-83	...	...	...	...	...	...	1,455	9,446	730	3,890
	1883-84	...	...	...	...	...	...	2,921	495	1,874	4,132
	1884-85	...	...	...	...	...	...	1,377	817	...	1,799
	1885-86	...	...	...	...	...	...	944	2,067	...	975
Total	1881-82	2,27,587	5,703	220	...	8,501	9,644	24,626	15,726	10,458	3,02,465
	1882-83	97,305	6,113	174	930	8,501	4,748	27,849	18,971	7,826	1,72,417
	1883-84	1,10,917	6,067	40	1,128	8 501	6,819	21,202	23.058	7,949	1,85,681
	1884-85	51,704	9,591	4,128	3,575	8,501	4,729	20,787	22,181	5,572	1,30,768
	1885-86	59,859	14,228	4,367	1,648	14,501	2,805	15,605	17,781	3,612	1,30,406

B.—Establishments.

Division.		I. Salaries.					II. Travelling allowances.				
		1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1881-82.	1882-83.	1883-84	1884-85.	1885-8 6.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs	Rs.
Dehra Dún	...	13,262	17,028	22,370	18,768	18,323	1,217	2,540	3,199	1,925	2,209
Saháranpur	...	3,418	4,168	8,301	8,200	7,766	710	1,265	1,177	1,157	1,157
Jaunsár	...	19,424	18,337	21,021	18,515	21,102	3,286	2.466	2,585	2,917	2,962
Direction	...	33,361	35,127	32,288	18,168	15,470	5,708	5,232	3,258	1,419	1,182
Total	...	69,405	74,660	84,980	63,651	62,661	10,921	11,503	10,219	7,418	7,510

Division.		III. Contingencies.					Total.				
		1881-82.	1882-83	1883-84	1884-85.	1885-86.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Dehra Dún	...	748	1,057	972	1,570	1,567	15,167	20,625	26,541	22,263	22,099
Saháranpur	...	735	761	959	976	947	4,863	6,194	10,437	10,333	9,870
Jaunsar	...	637	748	1,433	1,177	1,373	23.347	21,551	25,039	22 609	25,437
Direction	...	1,902	2,523	2,534	1,872	2,379	40,971	42,882	39,080	21,459	19,031
Total	...	4,022	5,089	5,898	5,595	6,266	84,348	91,552	1,01,097	76,664	76,437

Receipts and expenditure under the three great heads.

68. The receipts and expenditure under the three great heads—

I.—Departmental timber operations,

II.—Other revenue,

III.—Formation, protection, and improvement of forests, were as follows :—

Division.		*Departmental timber operations.*			*Other revenue.*			Formation, protection, and improvement charges.	Net surplus.
		Receipts.	Charges.	Surplus.	Receipts.	Charges.	Surplus.		
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Dehra Dún ...	Average of six years.	2,451	715	1,736	57,634	9,233	48,401	31,289	18,848
	1885-86 ...	13,266	4,987	8,279	86,388	13,594	72,794	37,073	44,000
Saháranpur ...	Average of six years.	428	298	130	33,284	10,376	22,908	10,375	12,663
	1885-86 ...	3,224	1,610	1,614	38,786	10,510	28,276	11,089	18,801
Jaunsár ...	Average of six years.	1,42,940	1,20,554	22,386	16,626	4,224	12,602	30,026	4,962
	1885-86 ...	1,64,153	64,508	99,645	30,494	3,898	26,596	36,557	89,684
Direction ...	Average of six years.	...	23,963	—23,963	1,491	5,361	—3,870	17,520	—45,353
	1885-86.	...	7,672	—7,672	338	7,073	—7,335	7,672	—22,679
The Circle ...	Average of six years.	1,45,820	1,45,530	290	1,09,235	29,194	80,041	89,210	—8,879
	1885-86 ...	1,80,643	78,777	1,01,866	1,56,006	35,675	1,20,331	92,391	1,29,806

Main facts relating to each division.

The main facts relating to each division are given in the subjoined table :—

Division.		Area in acres.	Yield of timber in cubic feet.	Kind of timber.	Yield of timber in cubic feet per acre.	Total receipts.	Receipts per acre.	Total expenditure.	Expenditure per acre.	Total surplus or deficit.	Ratio of expenditure to receipts.	Surplus per acre.
						Rs.	As.	Rs.	As.			As.
Dehra Dún ...	1884-85,	177,222	181,264	Sál, sain, tún, chir, and miscellaneous.	1·02	81,796	7·36	56,367	5·07	+25,431	·68	2·29
	1885-86,	177,080	127,870		·72	99,654	9·0	55,654	4·8	+44,000	·56	3·97
Saháranpur ...	1884-85,	188,577	19,049	Sál, sain, jamun, and miscellaneous.	·1	35,831	3·04	26 198	2·22	+9,633	·73	·76
	1885-86,	188,563	3,536		·02	42,010	3·56	23,209	1·96	+18,801	·55	1·6
Jaunsár ...	1884-85,	122,690	1,223,880	Deodar, chir, fir, oak, &c.	9·97	1,54,992	24·1	99,415	12·96	+55,577	·53	11·20
	1885-86,	147,681	425,758		2·81	1,94,647	21·16	1,04,963	11·37	+89,684	·54	9·72
Direction ...	1884-85,	...	...	...	...	180	...	25,452	...	—25,272	141·4	...
	1885-86,	...	...	...	...	338	...	23,017	...	—22,679	67·1	...
Total ...	1884-85,	488,489	1,424,193	...	2·7	3,02,801	9·92	2,07,432	6·77	95,369	·68	3·12
	1885-86,	513,274	547,164	...	1·06	3,36,649	10·5	2,06,843	6·44	1,29,806	·61	4·04

There has been a great falling off in the yield which will be explained further on, but the receipts and surplus per acre have increased and the expenditure diminished.

Principal causes of variation in revenue and expenditure.

Revenue.

70. The revenue exceeds that of the previous year by Rs. 33,848 and that of the average of the previous four years (1881-82 to 1884-85) by Rs. 76,587.

The increase on last year's figures is in the following divisions:—

	Rs.
Direction	158
Dehra Dún	17,856
Saháranpur	6,179
Jaunsár	9,655
Total	33,848

Taking each division separately, except that of the Direction, in which no permanent revenue is expected, and that for the year is due to a refund and to sale of wood from the godown, we have for the Dún the following items in excess:—

	Rs.
Supply of timber to Canal Department	8,539
Increased sale of standing trees in thinnings	7,355
Ditto bamboos from Tehri-Garhwál	1,462
Drift timber	4,122
Miscellaneous	155
Total	21,573

On the other hand, there has been a decrease under grazing dues of Rs. 2,629 owing to non-collection by the Tahsildar of villagers' dues during the year, and of Rs. 1,088 under minor produce and other revenue, due to non-sale of semla gum, the supply of which is practically triennial, and less price was obtained for limestone, so that the total decrease is Rs. 3,717, leaving a net increase of Rs. 17,856.

In the Sahárapur Division, the increased revenue of Rs. 6,179 as compared with that of the previous year is due to three items of increase of about Rs. 2,000 each under the heads of bamboos, grazing dues, and minor produce.

In the Jaunsár Division, there is an increase of Rs. 20,735, due principally to sale of sleepers, as the Rajputána Railway paid for the whole year's batch as well as half that of 1884-85, which was outstanding from the previous year. There was also an increase of Rs. 2,392, owing to the higher rates charged for Commissariat fuel.

There is a considerable falling off of Rs. 9,786 under II. *a*, due to greatly reduced sale of standing chír trees.

The other items of increase and decrease of revenue are trifling and the results show a net increase of Rs. 9,655.

Expenditure A.

71. The expenditure under A., Rs. 1,30,406, is less than that of 1884-85, by Rs. 362, and than the average expenditure of the preceeding four years, since 1881-82 inclusive, by Rs. 67,428.

The decrease on the previous year's expenditure is trifling and occurs as follows:—

	Excess. Rs.	Savings. Rs.
Direction		7
Dehra Dún		550
Sahárapur		2,526
Jaunsár	2,721	...
Total ...	2,721	3,083

Net savings, Rs. 362.

As regards the different divisions the decrease is accounted for as follows:—

Direction.—There are net savings of Rs. 7 as follows:—

	Rs.
Stores, tools, &c.	433
Miscellaneous	824
Total savings ...	1,257

whilst there is an increase under A. VII. of Rs. 1,250, due to purchase of old telegraph buildings for Rs. 1,000 and repairs and slight alterations to the main building of the Forest School.

Dehra Dún.—There is a net saving of Rs. 550, which is due to the following reductions of expenditure :—

	Rs
Buildings	3,419
Working plans	1,821
Economy in fire-conservancy	1,209
Ditto plantations	537
Compensation for land	750
Miscellaneous	878
Total ...	8,614

whilst the following items show an excess :—

	Rs
Timber for Canal Department	4 925
Increased rent of Tehri forests	1,500
Girdling and marking more timber and arrear payment of expenses for collection of grazing dues	987
Climber-cutting and coppicing	652
Total ...	8,064
Net saving ...	550

It is evident from the above figures that saving has been effected in capital expenditure which does not immediately produce revenue, whilst every case of excess, except for climber-cutting and other necessary work, is due to unavoidable expenditure, or to departmental timber expenditure which has resulted in an immediate increase of revenue.

Saháranpur.—The expenditure under A. shows a saving of Rs. 2,526 on the previous year's figures. The principal saving is under demarcation, Rs. 1,346, and roads Rs. 723, work being suspended under financial pressure ; whilst an excess of Rs. 1,067 was spent on buildings, due principally to the construction of a new chauki at Mohand. The other items, chiefly of savings, do not call for any remark, except to show that work has been done economically.

Jaunsár.—There is an increase of Rs. 2,720, which is accounted for as follows :—

	Rs
Increased departmental timber works	9,085
Increased rent of Tehri forests	4,500
Building, chiefly at Deoban	1,081
Working plan of Tehri forests	2,020
Other heads	264
Total increase ...	16 950
Savings.	
Fuel works	5,835
Boom and river dues charges	1,927
Tools	906
Roads	4,599
Fire conservancy	963
Total ...	14,230
Net increase ...	2,720

The large saving under river and boom charges is due to an entry under A.IV. of Rs. 1,531 in last year's accounts, which should have been charged to A I.a.

The saving under fire-conservancy is due to the non-payment of certain bills before the end of the financial year..

EXPENDITURE B.

72. The expenditure for the Circle under B. is less than that of the preceeding year by Rs. 226, and than the average of the four preceding years (since 1881-82 inclusive) by Rs. 11,902.

The trifling decrease on the previous year's figures is accounted for as follows:—

	Savings. Rs.	Excess. Rs.
Direction	2,428	...
Dehra Dún	164	...
Saháranpur	463	...
Jaunsár	...	2,328
Total ...	3,055	2,328
Net savings ...	227	...

Of the savings in the Direction Division, Rs. 1,412 are due to Mr. Moir having drawn pay and travelling allowance as Officiating Conservator for three months last year, and Rs. 1,087 to there being no supernumerary officer attached to the Direction Division for a longer period last year, and also Rs. 486 to the transfer of the second Clerk to the Forest School. These three items produce a saving of Rs. 2,935, but there is an increase of Rs. 517 under office contingencies, principally due to the pay and travelling allowance of temporary foresters being charged to this head.

The excess expenditure in the Jaunsár Division is due to Mr. Hearle having drawn pay and travelling allowance as working plans officer during a portion of the year, to Mr. Moir having drawn a charge allowance for holding the Jaunsár Division and the charge of the Circle at the same time, and to Mr. Hobart-Hampden's promotion to officiate as first grade Assistant Conservator of Forests.

Outstandings and liabilities.

73. The outstandings and liabilities on account of contractors and disbursers are shown for each division in Form No. 61.

At the commencement of the year the outstandings were Rs. 5,885, and at the close of the year Rs. 17,702, there being no liabilities. This amount is distributed among the different divisions as follows:—

	Rs.
Direction	237
Dehra Dún	1,973
Saháranpur	1,713
Jaunsár	13,779
Total	17,702

The large outstanding in the Jaunsár Division is due to Rs. 3,000 of Mr. Winton's account for floating sleepers being unsettled, and to Rs. 6,000 being advanced to contractors for sleeper works. The other outstandings in this and the other divisions are due to cash advanced to disbursers and contractors for works.

Outstandings of revenue.

74. The outstandings of revenue at the close of the year amounted to Rs. 26,513 and were as follows for the divisions:—

	Rs.
Dehra Dún	21,421
Saháranpur	2,761
Jaunsár	2,331
Total	26,513

The large outstanding in Dehra Dún is mainly owing to credit sales of standing timber, the purchase-money being payable by instalments extending over 16 months.

The outstanding in Saháranpur is partly accounted for in the same way as for that in the Dún, but Rs. 986 is an outstanding of grazing dues under collection by the

district officer, and Rs. 400 was by mistake credited as security deposit and has been adjusted subsequently to the close of the year.

The outstandings in the Jaunsár Division are principally due by purchasers of chír timber, which will be recovered when their timber is stopped by the boom at Dákpathar, where it had not arrived by the end of the year.

A sum of Rs. 4,940, outstanding since the preceding year, was struck off the books of the Jaunsár Division by order of Government. This consisted of the following items: Rs. 2,533 for inferior broad-gauge sleepers sold to Mr. C. Wilson; Rs. 289 for 66 chír trees which were not felled by the purchasers; Rs. 2,118 for rejected sleepers at first accepted as 2nd class by the Store-keeper of the Rajputana Railway at Delhi, but afterwards rejected as unfit to be put on the line by the Engineer, in which opinion the Conservator agreed when he inspected the sleepers at Delhi in January last.

CHAPTER VI.

General Remarks.

Control of the timber traffic on the Jumna river.

75. The following statement shows the traffic during the year and the dues levied as compared with the previous year and the average of the last year:—

Year.	*Pieces of timber—*				*Rafting dues.*		
	Removed by Government agency.	Removed from Government forests by purchasers.	From private forests.	Total.	From purchasers from Government forests.	From private forests.	Total.
Average.					Rs.	Rs.	Rs.
1884-85 ...	64,468	43,976	2,76,107	3,84,551	884	5,734	6,618
1885-86 ...	50,688	1,32,635	2,35,097	4,18,420	3,561	4,362	7,923

This shows an increase of 33,869 pieces and of Rs. 1,305 in the dues as compared with last year's figures.

The timber brought down was classed as follows:—

	Government agency.	Purchases from Government forests.	From private forests.	Total.
	Rs.	Rs.	Rs.	Rs.
Metre-gauge deodar sleepers	50,181	77,651	38,909	1,66,741
Broad-gauge ditto	...	19,434	44,931	64,365
Chir scantlings, &c.	...	35,550	77,500	1,13,050
Sál scantlings, tors, &c.	...	...	73,757	73,757
Miscellaneous	507	...	...	507
Total ...	50,688	1,32,635	2,35,097	4,18,420

It is possible that some of the sál scantling is from Government forests in the Dún, having been carted down from Dehra, and endeavours will be made next year to ascertain this accurately.

The expenditure on the boom and control of the floating was Rs. 3,179, of which Rs. 1,531 was shown to A.I.*a.*

The Dákhpathar boom has been greatly improved by Mr. Moir during the year, and some further improvement is contemplated.

The present system can be seen from the annexed plates drawn by Mr. Hobart-Hampden.

DAKHPATHUR BOOM.

Scale $\frac{1}{2}$" = 1'

fig.

PLAN

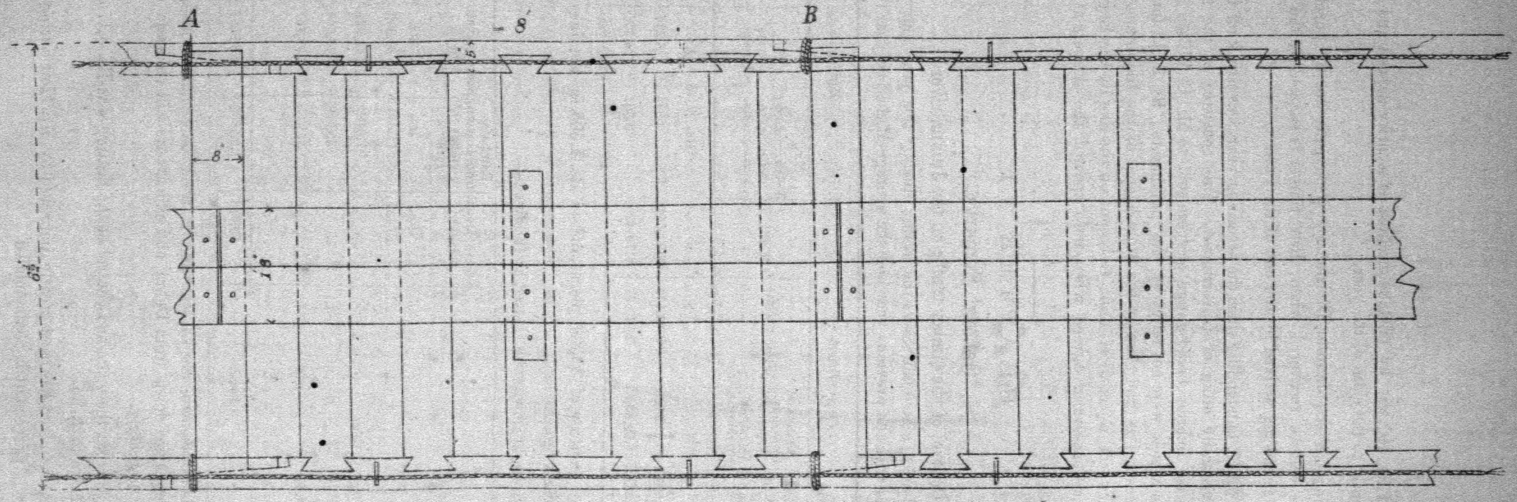
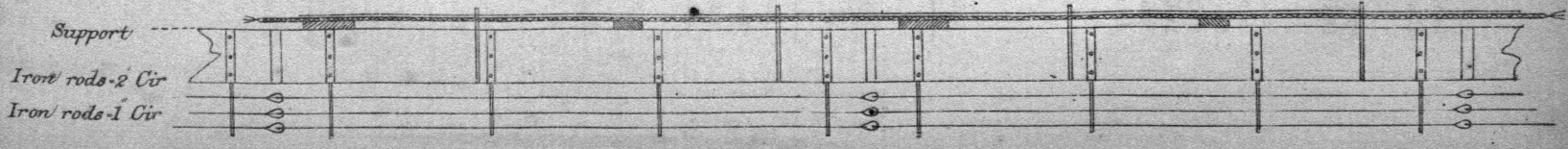


fig. 3. ELEVATION *(up stream edge of Boom)*



The boom was kept up from the 26th October to the end of the year, and a gang of six Mallahs was employed during the rains in catching stray timber, and they secured 22,892 pieces. Some improvement is still required in the river rules.

Supply of seed.

76. Seeds were supplied to meet indents as follows:—

From the Dehra Dún Division, to Aligarh, Landour, British Burma, Ajmír, Singapore, Berar, Ceylon, and New Zealand, 1,140lb., of which sissu formed the greatest quantity.

From Jaunsár, 250lb of deodar seed, 20lb of spruce, 10lb of chír seed to the Botanic Garden, Saháranpur, and to Naini Tal and Landour.

Drum hoops.

77. Two hundred and nineteen drum hoops were supplied to the Ferozpur Arsenal, but though the divisional officer took the greatest pains to meet this indent, which cost Rs. 133, and it is useful to introduce Indian woods instead of imported ones for all industries, yet he received no thanks for his trouble from the Ordnance Department, which rejected most of the hoops, but has settled up accounts in full since the close of the year.

A similar case happened with bamboo lances for H. E. the Viceroy's Bodyguard last year, and the Military Department should obtain such articles from the public market, as this Department can have no interest in supplying other than the rough material from the forests.

Method of preventing cracks in boxwood.

78. Some experiments were undertaken at the advice of Major Bailey to prevent splitting in box and olive wood. Logs of these woods were sawn along a radius to the centre and other logs were left untouched, and it was found that the latter had a number of small cracks, whilst in the sawn boxwood no cracks occurred and in the sawn olive wood there were less cracks than in the unsawn logs. This method of preventing cracks is practised in Japan, and was noticed by Major Bailey in the Edinburgh Forests' Exhibition.

Effects of fire protection on the watercourses in the Siwaliks.

79. This matter has attracted much attention, as the Irrigation Department is very anxious to profit by our protecting the forests from fire, and thus keeping up a coating of grass and other vegetation, which acts as a sponge and arrests the otherwise destructive floods when the first burst of the monsoon falls on hillsides burned completely bare.

An interesting report on this subject has been written by Messrs. Broun and Clifford, and careful levels and surveys were taken of the raus from the Jumna to the Ganges along the Khára-Hardwár road by Mr. J. Copeland of the Panjab Forest Department, who was attached to the Forest Survey from November, 1885 to February, 1886.

Masonry bench-marks have been put down on the banks of every rau, where it crosses the road, and it is intended that the levels and measurements shall be taken every year, so that we may obtain accurate data as to the results of closing the forests.

Observations have also been made by Mr. Clifford as to the dates on which the various streams dried up at certain points.

80. *Collection for the Indo-Colonial Exhibition.*—A collection of woods and other products of the forests of the Circle made by the Divisional Officers and arranged by Mr. Clifford was sent to the Inspector-General of Forests.

Excellent models of the sledge-road and slide at Deota prepared by Mr. J. Marten of the Forest Survey, with a series of photographs of the export works in the Deota forest by Mr. Mallitte, were included and duplicates of them have been presented by Marten to the Forest School, whilst another set will be sent to the Lucknow Museum.

81. *List of plants.*—It is intended shortly to publish a list of trees, shrubs, and climbers found in the forests of the Circle, and considerable progress in this respect has been made by Mr. Fernandez for the Dún, Mr. Broun for Saháranpur, and Mr. Hearle for Jaunsár.

Divisional herbariums are also kept up, in addition to the central herbarium at the Forest School.

82. *Tour of Conservator.*—The Officiating Conservator inspected works in the Jaunsár Division in May and June, returning to Dehra at the end of the latter month to direct the course of instruction at the Forest School, and inspected the Tehri-Garhwál and Dún forests from 5th November to Christmas, and then proceeded to Kalesar, where he remained with the students of the Forest School, then engaged in learning survey under Mr. J. Copeland, till January.

He visited Delhi and inspected some rejected sleepers and met Colonel Bisset to discuss the terms of a sleeper contract and then continued inspection of the Saháranpur and Dehra Dún forests till the end of the year.

W. R. FISHER,
Officiating Conservator of Forests.

ANNUAL STATEMENTS

AND

APPENDICES.

ANNUAL FORM No. 49.—(Prescribed.)

Forest Department, School Circle, North-Western Provinces and Oudh.

Area of Reserved, Protected, and District Forests, 1885-86.

Division or range.	Civil district or territory.	Name of forest.	*Area on 1st April*, 1885.		*Added during the year.*	*Excluded or transferred to other heads.*	*Area on 1st March*, 1886.		No. and date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles		
Dehra Dún.										
Western range ...	Dehra Dún ...	Ambári	4,203	7	...	...	4,203	7		
		Chandpur	2,251	3	...	...	2,251	3		
		Jumna	9,243	14	...	113	9,130	14	...	Boundary of Rampur Mandi forests altered by the settlement officer; 113 acres given to Mr. L. Powell.
		Timli	19,704	31	...	...	19,704	31		
Malhan ,, ...	Ditto ...	Dholkót	4,826	8	...	...	4,826	8		
		Sherpur	13,922	22	...	...	13,922	22		
		Chandrabani	7,239	11	...	...	7,239	11		
Central ,, ...	Ditto ...	Rámgarh	10,482	17	...	...	10,482	17		
		Bulawála	14,965	23	...	...	14,965	23		
		Nágsidh	16,517	26	...	...	16,517	26		
Eastern ,, ...	Ditto ...	Kánarao	20,940	33	...	...	20,940	33		
		Motichur	22,102	34	...	29	22,073	34	...	Boundary of Kharkhari block altered by settlement officer; 29 acres given to villagers.
Tháno and Tirsál range.	Ditto ...	Málkót	5,641	9	...	...	5,641	9		
		Tháno	6,576	10	...	...	6,576	10		
		Tirsál	18,066	28	...	...	18,066	28		
		Sainkót	495	1	...	...	495	1		
		Total, Dehra Dún Division ...	177,222	277	...	142	177,080	277		
Saháranpur.										
Western range ...	Saháranpur ...	...	81,876	128	...	*14	81,862	128		*Given to Mr. L. Powell by the Collector of Saháranpur, for the rectification and straightening of the forest boundary line.
Central ,, ...	Ditto ...	...	74,961	117	...	...	74,961	117		
Eastern ,, ...	Ditto ...	...	31,740	50	...	...	31,740	50		
		Total, Saháranpur Division ...	188,577	295	...	14	188,563	295		

Jaunsár Division.	Deoban range ...	Dehra Dún ...	Kálsi	4,568	7	...	...	4,568	7			
			Strips on Jumna and Tons ...	422	1	...	...	422	1			
			Bairát, This includes Gingori, Kua, Korwa, Kothár, Bandla, Mogád, Rama ...	279	...	...	...	279	...			
			Amláwa	402	1	...	...	402	1			
			Lokandi	6,975	11	...	...	6,975	11			
			Deoban	6,545	10	...	...	6,545	10			
			Ekra	5,313	8	...	...	5,313	8			
			Karamba	11,842	19	...	...	11,842	19			
			Konain	4,654	7	...	...	4,654	7			
	Báwár ,, ...	Ditto ...	Riknár	6,450	10	...	...	6,450	10			
			Dhánigád	13,540	21	...	...	13,540	21			
			Dharmgad	10,013	16	...	...	10,013	16			
			Bastil	3,085	5	...	...	3,085	5			
	Deogárh ,, ...	Ditto ...	Deogárh	11,272	18	...	...	11,272	18			
		Jaghira ...	Banengárh ...	4,552	7	...	...	4,552	7			
		Ditto ...	Dádi including Ori ...	1,630	2	...	...	1,630	2			
	Deota ,, ...	Dehra Dún ...	Khunigád	11,974	19	...	...	11,974	19			
			Deota	4,937	8	...	...	4,937	8			
			Bámsu	2,323	4	...	...	2,323	4			
			Surás	1,014	2	...	...	1,014	2			
			Banks of Tons	9	...	...	9	...	...			
			Dátmir	2,560	4	...	...	2,560	4		...	Reduction due to the exclusion of the forest from the new Tehri-Garhwál lease.
	Kotigád ,, ...	Tehri-Garhwál ...	Binkasr	50	...	...	50	...	...		...	Ditto.
			Nauntwár	...	...	3,000 (Estimated)	...	3,000	...			
			Sáhira	...	...	22,000 (Estimated)	...	22,000	34			
			Norapu									
			Chánnl									
			Lambatách	2,883	4	...	...	2,883	4			
			Kotigád	3,963	6	...	...	3,963	6			
	Pashár ,, ...	Bashár ...	Bashár	1,430	2	...	...	1,430	2			
			Total, Jaunsár Division ...	122,690	192	25,000	59	147,631	231			
			Grand Total ...	488,489	764	25,000	215	513,274	803			

ANNUAL FORM No. 50.—(Prescribed.)

Forest Department, School Circle, North-Western Provinces and Oudh.

Register of Breaches of Forest Rules during 1885-86.

Forest Division and Civil District.	Cases pending from 1884-85.	*New cases of the year.*					Total cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		*Convictions.*		*Acquittals.*		*Total.*		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
						I.—Prosecutions in the Courts of Law.								
Dehra Dún District.														
Dehra Dún	...	2	1	...	5	8	8	7	14	1	5	8	19	...
Sahárunpur District.														
Sahárunpur	...	...	2	3	...	5	5	4	11	1	5	5	16	...
Native States.														
Bashahr State Jaunsár	...	...	1	...	...	1	1	1	1	...	...	1	1	...
Total for the Circle ...	...	2	4	3	5	14	14	12	26	2	10	14	36	...
						II.—Cases compounded under section 67 of the Forest Act.								
Dehra Dún Division	...	1	30	...	2	33	33	32	43	1	2	33	45	...
Sahárunpur	...	2	35	2	2	41	41	33	75	8	14	41	89	...
Jaunsár	...	2	34	5	7	48	48	44	41	4	9	48	50	...
Total ...	...	5	99	7	11	122	122	109	159	13	25	122	184	...

ANNUAL FORM No. 51.

Forest Department, School Circle, North-Western Provinces and Oudh.

Area of forest tracts protected from fire during the dry season of 1886 *(to accompany report for* 1885-86.)

Division.	Forest tracts.	Year in which protection commenced.	Area actually protected up to 15th June, 1885.	During the dry season of 1886.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres	Acres.	Acres.	Acres.	Rs.	
Dehra Dún ...	Jumna ...	1886	...	8,305	...	8,305	186	
	Timli ...	1884	15,100	19,704	...	19,704	378	
	Sherpur ...	1884	11,601	13,922	40	13,882	326	
	Dhoikót ...	1884	4,826	4,826	...	4,826	272	
	Chandrabani ...	1878	6,295	7,289	10	7,279	491	
	Rámgarh ...	1877	6,332	10,152	...	10,152	457	
	Bulawála ...	1872	14,503	14,485	10	14,475	499	
	Nágsidh ...	1883	6,925	11,568	...	11,568	303	
	Thano ...	1879	5,306	4,849	80	4,769	383	
	Kánsrao ...	1878—1881	10,110	14,057	...	14,057	684	
	Motichur ...	1883	3,716	18,703	...	18,703	241	
	Total, Dehra Dún ...		84,714	127,860	140	1,27,720	4,230	
	Western Range.							
	Khára ...	1879	600	9,612	556	9,056	135	
	Bádshahibágh ...	1885	704	7,066	108	6,958	51	
	Chápri ...	1885	2,765	2,765	...	2,765	63	
	Khaironwála ...	1885	2,970	2,970	...	2,970	55	
	Barkala ...	1885	5,133	5,133	2,118	3,015	93	
	Kasúmri ...	1885	2,579	2,579	1,209	1,370	77	
	Sahánsra ...	1885	6,048	6,048	832	5,216	76	
	Kotri ...	1885	2,669	2,669	...	2,669	61	
	Káluwála ...	1885	2,293	2,293	...	2,293	64	
	Central Range.							
	Mohand ...	1884	218	1,152	...	1,152	121	
	Sukh ...	1884	410	1,152	...	1,152	53	
	Chikna ...	1882	1,331	1,331	...	1,331	77	
	Gáj ...	1882	3,578	3,578	...	3,578	82	
	Binj ...	1882	5,719	5,719	...	5,719	87	
	Dholkhand ...	1880	3,916	3,916	...	3,916	83	
	Maluwála ...	1880	2,122	2,122	684	1,438	38	
Saháranpur ...	Bám ...	1880	3,013	3,013	2,227	786	81	
	Betban ...	1882	5,899	6,781	1,688	5,093	182	
	Golna ...	1886	...	3,746	...	3,746	56	
	Lalwála ...	1884	499	499	...	499	65	
	Baniawála ...	1883	500	500	...	500	56	
	Laskarkot ...	1879	3,646	3,646	...	3,646	251	
	Ganjarban ...	1879	2,833	2,833	...	2,833	221	
	Rasulpur ...	1879	2,445	2,445	2,445	...	169	
	Sendhli ...	1883	2,560	2,560	20	2,540	161	
	Tirá ...	1884	375	1,013	...	1,013	97	
	Eastern Range.							
	Harnaul ...	1886	...	2,035	...	2,035	39	
	Chirák ...	1886	...	3,860	...	3,860	19	
	Rául ...	1879	525	3,033	...	3,033	36	
	Ráni ...	1879	710	4,885	...	4,885	36	
	Miapur ...	1886	...	1,370	...	1,370	42	
	Pathri ...	1880	933	672	90	582	459	
	Total, Saháranpur ...		66,503	103 006	11,977	91,029	3,185	

ANNUAL FORM No. 51—(*concluded*).

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Area of forests protected from fire during the dry season of 1886 (*to accompany report for* 1885-86).

Division.	Forest tracts.	Year in which protection commenced.	Area actually protected up to 15th June, 1885.	During the dry season of 1886.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.	Rs.	
	Deoban Range							
	Kálsi	1872	2,469	2,500	...	2,500	9	
	Bairát							
	Amlawá							
	Cantonment blocks and forest garden	1880	561	561	...	561	7	
	Lokandi	1869	5,132	5,132	10	5,122	33	
	Deoban	1872	5,775	5,775	10	5,765	47	
	Ekra	1872	2,670	2,670	...	2,670		
	Konain	1872	3,780	3,780	4	3,776	71	
	Karamba	1872	3,878	3,878	...	3,878		
	Bawár Range.							
Jaunsár ...	Rikúár		4,600	4,600	...	4,600		
	Dhárágád	1872	4,000	4,400	262	4,138		
	Dharni ád	Ubragad—	1,200	1,520	7	1,513	300	
	Bástil	1885	1,269	1,269	...	1,269		
	Kanjwár		100	100	...	100		
	Deota Range.							
	Khunigád							
	Molta	1879—1884	4,657	4,657	1,141	3,516	229	
	Chatra							
	Hánol							
	Deogárh Range.							
	Deogárh, Raiengárh and Dádi	1882—1884 and 1885	8,870	9,324	...	9,324	267	
	Total, Jaunsár ...	...	48,961	50,166	1,434	48,732	963	
	Grand Total ...	...	2,09,178	281,032	13,551	267,481	8,378	
	Leased Forests in Native States.							
Debra Dún ...	Tehri Forests	1886	...	2,240	...	2,240	54	
	Deoban Range							
	Rawai and Jaunpur	...	2,880	...	...	...	...	Forests given up.
	Deota Range.							
	Deota		4,937	4,937	...	4,937		
	Bámsu		2,323	2,323	...	2,323	474	
	Surás	1879—1884	1,914	1,914	...	1,914		
	Báshla		1,190		...			
	Binksár	...	50	...	...	...	...	Ditto.
	Dátmir	1872	2,560	2,560	...	2,560	26	
Jaunsár ...	Naintwár	1885	...	3,000	50	2,950	12	
	Sáhlra							
	Norána	1884—85	4,000	21,500	...	21,500	29	
	Kotigád Range.							
	Chánsil							
	Kotigád	1879	3,968	3,968	...	3,968	Included under Deota, Bamsa &c..	
	Lambatách		2,883	2,883	...	2,883		
	Deogárh Range.							
	Bashábr	1881	1,418	1,418	...	1,418	20	
	Total ...	...	27,223	45,843	50	45,793	615	
	Grand Total of protected forests ...	...	227,401	326,875	13,601	313,274	8,993	

NOTE.—The difference of areas shown in column 4 with those of column 7 of last years statement in the Saháranpur and Jaunsar divisions are due to correct measurement of areas.

ANNUAL FORM No. 52.—(PRESCRIBED.)

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Area of Plantations, 1885-86.

Division.	Name of Plantation.	*Area in acres.* On 1st April, 1885.	Added during the year.	Excluded during the year.	Area on 31st March, 1886.	*Receipts—* / *Charges—* Of the year. Rs.	Rs.	Remarks.
	Regular Plantations.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	
Dehra Dún	Phándowála (sál)	7½	...	...	7½	...	45	
	Various other plantations imperfectly stocked, incomplete, &c.	...	...	...	...	...	903	
	Total, Dehra Dún Division	7½	...	...	7½	...	948	
	Regular Plantations.							
Saháranpur	Shámansúr	6	...	6	...	...	...	Complete failure.
	Ferozepur (chiefly sissu)	80½	...	...	80½	...	59	Digging and weeding beds chiefly.
	Rasulpur (khair and sissu)	5	...	...	5	...	25	Digging pits and establishment.
	Kálushábid (Ránipur) bamboos, &c.	13	roods 2	...	13½	...	228	Digging, preparing beds, and filling in blanks.
	Gaujárban (sál)	82	1	...	73	...	235	Digging, planting pits and beds.
	Bám (sál)	7½	1	...	8½	...	247	Ditto ditto.
	Sendhli (sál)	8	...	...	8	...	50	Digging and putting cowls.
	Tira	1	...	...	1	...	226	Nurseries.
	Gáj (sissu)	...	...	...	...	...	50	
	Total, Sháranpur Division	127½	2—2	6	124	...	1,120	
	Regular plantations.							
Jaunsár	Kathian (deodar)	229	...	...	229	...	*42	* Rs. 14 charged under A. VIIIF.
	Konain (deodar)	122	...	...	122	...	5	
	Kanásár (deodar, blue pine)	139	...	...	139	...	...	
	Bodyár (deodar and spruce)	373	...	...	373	...	209	
	Korwa (oak)	15	...	...	15	...	14	
	Mohna (deodar, spruce, blue pine, kharsu and chestnut)	175	...	...	175	...	57	
	Matkangra (moru)	61	...	...	61	...	...	
	Thoná (spruce)	4	...	...	4	...	...	
	Lurli cantonment block (oak, deodar, chir and blue pine	54	...	...	54	...	99	
	Soi toli cantonment block (oak and deodar)	15	...	...	15	...	101	
	Kanjátra (deodar)	...	20	...	20	...	308	Also nurseries.
	Hajawá (Rai)	...	...	...	...	...	6	
	Deota Forest (plantings and sowings)	43	...	...	43	...	150	
	Lambatách Forests (plantings and sowings)	186	...	51	135	...	241	
	Morách Forests (plantings and sowings)	13	...	...	13	...	...	
	Dátmir and Saura	...	2	...	2	...	25	Boxwood nurseries.
	Dákhipathar	...	...	...	...	...	...	Depôt plantings.
	Jádi	...	...	...	...	...	4	Nurseries.
	Mundáli	...	...	...	...	...	7	Ditto.
	Chájpur	...	...	...	...	...	36	Ditto.
	Total, Jaunsár	1,368	32	...	1,400	...	*1,371	* Rs. 14 charged to A VIIIF. included here.
	Total, Regular plantations	1,503	34½	6	1,531½	...	3,439	
	Cultural operations.							
	Thinnings of pinus excelsa in Lambatách and Kathián and Konain.	707	340	...	1,047	...	*27	Charged to A VIIIF.
	Total, Cultural operations	707	340	...	1,047	...	27	
	GRAND TOTAL	2,210	374½	6	2,578½	...	*3,466	* Rs. 41 charges under A VIIIF. included here.

ANNUAL FORM No. 53.—(Prescribed.)

Forest Department, School Circle, North-Western Provinces and Oudh.

Trees felled or girdled by Government Agency, during the year 1885-86.—(*Selection fellings.*)

Division.	*Trees felled.* Description.	Number.	Remarks.
Dehra Dún ...	Sal	2,219	
	Sain	2	
	Tun	10	
	Miscellaneous	92	
	Total, Dehra Dún Division ...	2,323	
Saháranpur	*Nil.*	...	
Jaunsár	Deodar	1,744	
	Tun	57	
	Boxwood	1	
	Chir (Pinus longifolia)	93	
	Kail	19	
	Rai	49	
	Fir	109	
	Moru	12	
	Inai	1	
	Karsu (Oak)	320	
	Total, Jaunsár Division ...	2,465	
	Grand Total	4,788	
	Abstract for the Circle.		
	Sal	2,219	
	Sain	2	
	Tun	67	
	Deodar	1,744	
	Chir	93	
	Oak	332	
	Fir and Pine	237	
	Boxwood	93	
	Miscellaneous	1	
	Total	4,788	

ANNUAL FORM No. 54.

Forest Department, School Circle, North-Western Provinces and Oudh.

Outturn of timber and firewood during the year 1885-86.

Division.	Description of material.	Outturn in cubic feet. Selection fellings.	Clearances (miscellaneous)	Thinnings.	Total.	Removed by Government Agency.	Purchasers.	Free grants.	Right-holders.	Remarks.
	1.—*Reserved forests.*									
Dehra Dún ...	Timber of sorts	21,830	47,337	1,03,506	1,72,673	37,805	1,34,735	133	...	
	Drift do.	...	11,253	...	11,253	5,724	5,529	...	...	
	Firewood	...	3,90,103	...	3,90,103	56,422	3,21,681	...	12,000	
	Charcoal	...	544	...	544	...	544	...	...	
	Total, Dehra Dún, Timber ...	21,830	58,590	1,03,506	1,83,926	43,529	1,40,264	133	...	
	Total, Dehra Dún, Firewood,	...	3,90,647	...	3,90,647	56,422	3 22,225	...	12,000	
Saháranpur ...	Sal timber	...	...	684	684	684	...	...	...	
	Do. poles	...	...	10,644	10,644	10,644	...	...	...	
	Do. saplings	...	...	5,553	5,553	5,553	...	...	...	
	Miscellaneous poles ...	...	...	2,276	2,276	...	2,276	...	...	
	Ditto saplings ...	...	...	375	375	...	375	...	...	
	Lease of fallen wood ...	...	...	2,852	2,852	...	2,852	...	...	
	Firewood	...	...	24,016	24,016	...	24,016	...	...	
	Charcoal	...	...	10,336	10,336	...	10,336	...	...	
	Firewood (leased) ...	...	...	1,94,180	1,94,180	76,950	1,17,230	...	...	
	Total, Saháranpur, Timber...	...	...	22,384	22,384	16,881	5,503	...	...	
	Total, Saháranpur, Firewood,	...	...	2,28,532	2,28,532	76,950	1,51,582	...	...	
Jaunsár ...	Deodar trees	1,17,100	...	...	1,17,100	...	92,400	24,700	...	
	Metregauge deodar sleepers ...	74,262	...	...	74,262	74,262	...	...	...	
	Deodar scantlings, &c. ...	10,433	200	...	10,633	8,921	200	1,562	...	
	Chir trees	1,54,320	...	...	1,54,320	...	1,19,120	35,200	...	
	Do. sleepers	942	...	...	942	942	...	...	...	
	Do. scantlings, &c. ...	5,072	...	...	5,072	4,735	337	...	...	
	Sal trees	315	...	...	315	...	20	295	...	
	Do. tors	33	...	...	33	...	33	...	...	
	Boxwood trees	1,482	...	...	1,482	...	1,482	...	...	
	Do. pieces	5	...	...	5	...	5	...	...	
	Fir and pine trees ...	47,520	...	...	47,520	...	2,000	45,520	...	
	Do. scantlings ...	1,405	...	...	1,405	1,405	...	...	...	
	Oak trees	630	...	...	630	...	...	630	...	
	Do. pieces, &c.	46	...	...	46	46	...	...	...	
	Tun beams, &c.	943	...	...	943	943	...	...	...	
	Miscellaneous trees ...	510	...	...	510	...	65	445	...	
	Do. tors ...	1,186	...	...	1,186	...	746	440	...	
	Haldu pieces	23	...	...	23	...	23	...	...	
	Drift chir sleepers and scantlings	232	...	...	232	232	...	...	...	
	Firewood—oak	30,750	...	9,260	40,010	40,010	...	...	...	
	Do. —fir	76,470	...	...	76,470	76,470	...	...	...	
	Charcoal	...	...	2,552	2,552	2,552	...	...	...	
	Total, Jaunsár, Timber...	4,16,509	200	...	4,16,709	91,486	2,16,431	1,08,792	...	
	Total, Jaunsár, Firewood,	1,07,220	...	11,812	1,19,032	1,19,032	...	...	...	
	Grand Total ... Timber...	4,38,339	58,790	1,25,890	6,23,019	1,51,896	3,62,198	1,08,925	...	
	Grand Total ... Firewood,	1,07,220	3,90,647	2,40,344	7,38,211	2 52 404	4,73,807	...	12,000	

Note.—There are no protected and district forests in this circle.

ANNUAL FORM No. 55—(PRESCRIBED.)

FOREST DEPARTMENT, SOHOOL CIRCLE, N.-W. PROVINCES AND OUDH.

Outturn of minor produce during 1885-86.

Division.	Description of produce.	Produce removed or utilized.										Remarks.
		By Government Agency.		*By Purchaser.*		*By Free Grants.*		*By Right-holders.*		*Total.*		
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
	II.—Reserved Forests.		Rs.		Rs.		Rs.		Rs.		Rs.	
Dehra Dún.	Bamboos...	1,220	20	14,04,220	9,500	...	...	...	...	14,05,440	*9,529	* Rs. 3 for sale of confiscated bamboos included here.
	Bansles	...	...	43,400	54	...	...	...	...	43,400	54	
	Total, bamboos ...	...	20	14,47,620	9,563	...	...	...	...	14,48,840	9,583	
	Grazing (animals)	...	...	32,426	5,696	...	...	...	...	32,426	5,696	
	Fodder, grass (headloads &c.,) ...	...	...	1,045	114	...	...	...	...	1,045	114	
	Total, grazing ...	...	...	...	5,810	...	...	...	...	...	5,810	
	Lease of limestone ...	...	...	...	2,888	...	...	...	...	...	2,888	
	Do. of hides	...	...	...	200	...	...	...	...	...	200	
	Do. of honey, and wax ...	...	...	...	108	...	...	...	...	...	108	
	Do. of Semla gum ...	...	...	...	130	...	...	...	...	...	130	
	Minor produce (lease) ...	...	...	...	3,205	...	...	...	...	...	3,205	
	Ditto (by passes &c., ...	...	...	...	430	...	...	...	...	...	430	
	Total minor produce ...	...	...	...	6,461	...	...	...	...	...	6,461	
	Total Dehra Dún Division ...	...	20	...	21,834	...	...	...	...	...	21,854	
Sahárunpur.	Bamboos...	5,51,920	5,139	...	...	...	...	...	...	5,51,920	5,139	
	Ditto (lease)	11,92,960	7,456	...	...	...	...	...	...	11,92,960	7,456	
	Total, bamboos ...	17,44,880	12,595	...	...	...	...	...	...	17,44,880	12,595	
	Grazing (animals)	31,450	5,399	...	...	...	...	...	...	31,450	5,399	
	Ditto lease (Kasúmri fair) ...	4,000	1,000	...	...	...	...	...	...	4,000	1,000	
	Ditto (collection through Collector.)	32,429	6,669	...	...	...	...	2,018	415	34,447	†7,084	† Rs. 6,104 realized during the year and Rs. 980 are outstanding.
	Fodder grass	...	...	...	7	...	...	...	...	...	7	
	Total	...	...	67,871	13,075	...	...	2,018	415	69,897	‡13,490	‡ Rs. 60 outstanding from previous year recovered and credited in this, not included.
	Grass	...	...	...	160	...	...	...	...	...	160	
	Leaves	...	...	...	421	...	...	...	...	...	421	
	Stones	...	...	...	241	...	...	...	...	...	241	
	Gum	...	...	...	7	...	...	...	...	...	7	
	Climbers...	...	...	...	8	...	...	...	...	...	8	
	Fencing thorns	...	...	...	74	...	...	...	...	...	74	
	Kands and Saral	...	...	...	38	...	...	...	...	...	38	
	Miscellaneous	...	...	...	32	...	...	...	...	...	32	
	Minor produce (lease) ...	...	...	...	7,155	...	...	...	...	...	§7,155	§ Rs. 6,920 have been realized and Rs. 235 are outstanding.
	Total Minor produce ...	...	...	...	8,136	...	...	...	...	...	8,136	
	Total, Sahárunpur Division ...	...	...	...	33,806	...	...	...	415	...	34,221	
Jaunsár.	Ringals	...	...	4,08,000	255	140	1	...	...	4,08,140	256	
	Bamboos (leased)	...	...	800	10	900	11	...	...	1,700	21	
	Total, bamboos ...	...	...	4,08,800	265	1,040	12	...	...	4 09,840	277	
	Grazing (animals)	...	...	9,803	2,233	...	...	...	...	9,803	2,233	
	Commissariat cattle ...	...	...	...	180	...	...	...	...	...	180	
	Fodder grass (loads) ...	...	...	25	1	...	...	...	...	25	1	
	Total, grazing	...	...	...	2,414	...	...	...	...	...	2,414	
	Stones, cubic feet	...	...	20	1	...	...	...	...	20	1	
	Grass thatching	...	...	532	1	...	...	...	...	532	1	
	Minor produce (lease) ...	...	...	...	210	...	...	...	...	...	210	
	Total minor produce ...	...	...	...	212	...	...	...	...	...	212	
	Total Jaunsár division ...	...	...	...	2,891	...	12	...	...	...	2,903	
	ABSTRACT.											
Circle.	Bamboos...	1,220	20	36,01,300	22,423	1,040	12	...	...	36,03,560	22,455	
	Grazing and fodder grass ...	...	...	...	21,299	...	...	...	415	...	21,714	
	Minor produce	...	...	...	14,809	...	...	...	...	...	14,809	
	Grand Total ...	...	20	...	58,531	...	12	...	415	...	58,978	

ANNUAL FORM No. 56.—(Prescribed.)

Forest Department, School Circle, North-Western Provinces and Oudh.

Account of timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1885-86.

Particulars.	Number or quantity.	Cubic feet.	Total of each head. Number or quantity.	Total of each head. Cubic feet.
Balance in hand on 1st April, 1885.				
Dehra Dún — Sál logs	2	10		
„ scantlings	1	1		
Pine logs	6	70		
Sissu, sandan and tun logs	2	19		
Miscellaneous logs	1	10		
Ditto pieces	14	41		
Poles	7	22	33	173
Firewood (mds.)	14,443	28,886	...	28,886
Saháranpur — Sál timber	312	936		
„ poles	2,058	2,232		
„ saplings	1,864	1,164	4,234	4,432
Jaunsár — Deódar scantlings	3,606	7,614		
Fir and pine do.	17	22		
M. G. deodar sleepers	30,861	37 659		
Pine scantlings (in forests)	575	2,064		
Pine logs	221	2,458		
Pine shikanjas	94	776		
Tun ditto	230	3,080	35,604	53,673
Firewood, oak 3,167	Solid =	4,750		
Ditto, fir 26,434	Do. =	39,650	29,601 solid c ft. =	44,400
Charcoal	...	2,744	...	2,744
Total, Balance — Timber	...	...	39 871	58,328
Firewood	...	...	...	73,286
Charcoal	...	...	...	2,744
Received from the forests in depôts.				
Sál timber	108	634		
„ poles	4,141	15,794		
„ saplings	3,239	5,553		
Deodar scantlings	7,631	9,110		
Metre gauge deodar sleepers	67,446	99 303		
Broad do. do. do.	4,274	14,553		
Deodar logs	274	4,976		
Fir and pine scantlings	2,998	6,276		
Chir logs	1	14		
„ shikanjas	250	1 600		
„ sleepers	298	1,053		
Tun shikanjas and beams	232	943		
Oak shikanjas	10	40		
„ pieces	6	6		
Boxwood	111	30		
Miscellaneous ballas and tors	10,766	16,985		
Ditto ballis	4,892	7,332	1,06,677	1,84,257

Particulars.	Number or quantity.	Cubic feet.	Total of each head. Number or quantity.	Total of each head. Cubic feet.
Removed by purchasers from depôts.				
Sál timber	311	978		
„ poles	2,248	2,559		
„ saplings	3,110	2,660		
„ ballas	1,500	5 150		
Deodar scantlings	2,272	3,160		
Metre gauge deodar sleepers	76,182	105,093		
Fir and pine scantlings	1,332	1,263		
Pine logs	22	235		
„ sleepers	263	913		
Broad gauge deodar sleepers	748	2,263		
Boxwood pieces	111	30		
Miscellaneous ballas and tors	10,766	16,985		
Ditto ditto	4,892	7,332	103,857	148,626
Firewood, oak	...	18,510		
Ditto, fir	...	77,460	...	95,970
Charcoal	...	2,307	...	2,307
Sold locally.				
Firewood, oak	...	14,721		
Ditto, miscellaneous	...	76,950	...	91,671
Charcoal	...	2,512		2,512
Drift timber sold locally.				
Sál logs	20	1,804		
Sain „	1	28		
Chir „	102	1,022		
Miscellaneous logs	55	563		
Sissu, sandan and tun logs	158	494		
Sál scantlings	42	64		
Sain „	156	215		
Pine „	13	18		
Miscellaneous scantlings	66	96		
Ditto pieces	270	510		
Ditto tors and poles	332	748		
Ditto saplings	180	184		
Broad guage chir sleepers	11	40		
Chir planks	4	4	1,410	5,790
Firewood	...	73,146	...	73,146
Bamboos	1,220	...	1,220	
Converted in depôts.				
Deodar logs	274	4,976		
Chir „	200	2,237	474	7,213

Firewood, oak			25,800			
Ditto, fir			74,720	...	100,520	
Charcoal			40	...	40	
Departmental collection of drift timber from the Ganges.						
Sál logs		19	1,808			
Sain „		1	28			
Pine „		96	952			
Bissu, sandan and tun logs		156	475			
Miscellaneous „		54	553			
Sál scantlings		42	64			
Sain „		164	227			
Pine „		14	24			
Miscellaneous scantlings		141	194			
Ditto pieces		257	470			
Tors and poles		229	745			
Saplings		180	184	1,453	5,724	
Firewood		...	56,422	...	56,422	
Bamboos (No.)		1,220	..	1,220		
Drift timber.						
Broad gauge chir sleepers		49	184			
Chir karris		23	44			
Do. planks		4	4	76	232	
Received from the forests and sold locally.						
Firewood, oak		...	14,721			
Ditto, miscellaneous		...	76,950	...	91,671	
Charcoal		...	2,512	...	2,512	
Received from the forests and used by department.						
Sál trees		719	7,633			
Sain do.		2	10			
Tun do.		10	325			
Miscellaneous do		92	370	823	8,338	
Grand Total ... Timber		...	...	148,900	256,879	
Grand Total ... Firewood		...	...	...	321,899	
Grand Total ... Charcoal		...	...	...	5,296	
Grand Total ... Bamboos		...	...	1,220	...	

Lost or written off.					
Deodar scantlings	43	31			
Metre gauge deodar sleepers	1,724	2,282			
Broad ditto ditto	16	48	1,783	2,311	
Firewood, oak	...	270	...	270	
Used by department.					
Sál trees, &c.	721	7,654			
Sain „	2	10			
Tun „	10	325			
Sál poles	26	128			
Do saplings	54	72			
Miscellaneous	92	370			
Deodar scantlings	3,145	3,490			
Fir and pine ditto	742	2,261			
Chir shakanjas	144	995			
Tun ditto	166	2,824	5,102	18,129	
Firewood, oak	...	200	...	200	
Charcoal	...	2	...	2	
Transferred to Forest School.					
Deodar scantlings	50	353			
Fir and pine do	191	75	241	428	
Balance at the close of the year.					
Dehra Dún Division.					
Sál logs	1	14			
„ scantlings	1	1			
Sain do.	8	12			
Chir do.	1	6			
Miscellaneous scantlings	75	98			
Ditto pieces	1	1			
Ditto poles	4	19	91	151	
Firewood	...	12,162	...	12,162	
Sahárunpur Division.					
Sál timber	107	671			
„ poles	2,425	10,284			
„ saplings	1,939	3,986	4,471	14,945	
Jaunsár Division					
Deodar scantlings	5,627	9,390			
Fir and pine do	1,325	4,763			
Metre gauge deodar sleepers	20,401	29,637			
Chir shakanjas	200	1,381			
Tun „	296	1,199			
Oak „	10	49			
Chir sleepers	35	145			
Broad gauge deodar sleepers	3,510	12,237			
Oak pieces	6	6			
Broad gauge chir sleepers	38	144			
Chir karris	23	44	31,471	59,286	
Firewood, oak	...	11,570			
Ditto, fir	...	36,910	...	48,480	
Charcoal	...	475	...	475	
Total balance, Timber	...	...	36,033	74,382	
Total balance, Firewood	...	...	...	60,642	
Total balance, Charcoal	...	...	...	475	
Grand Total, Timber	...	...	148,900	256,879	
Grand Total, Firewood	...	...	...	321,899	
Grand Total, Charcoal	...	...	...	5,296	
Grand Total, Bamboos	...	...	1,220	...	

ANNUAL FORM No. 57.

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Abstract showing the value of Live and Dead Stock for the year 1885-86.

Description of Live and Deadstock.	On hand at commencement of the year.		On hand at close of the year.		Difference in value.	
	Number.	Value.	Number.	Value.	In favor of the year.	Against the year.
		Rs.		Rs.	Rs.	Rs.
DIRECTION.						
Office furniture	36	334	36	334	...	...
Tents	6	600	4	521	...	79
Buildings and building materials	8	21,800	8	21,800	...	...
Miscellaneous	10	40	16	77	37	...
Elephants	1	2,000	1	2,000	...	...
Total	61	24,774	65	24,732	37	79
DEHRA DÚN DIVISION.						
Surveying and other instruments	95	353	83	277	...	76
Tools	1,676	713	1,449	635	...	78
Office furniture	250	707	280	782	75	...
Tents	24	615	14	355	...	260
Buildings and building materials	85	13,453	90	14,000	547	...
Miscellaneous	357	431	368	546	115	...
Elephants	1	2,800	1	2,800	...	...
Total	2,488	19,072	2,285	19,395	737	414
SAHÁRANPUR DIVISION.						
Surveying and other instruments	9	41	10	51	10	...
Machinery	18	44	18	44	...	...
Tools	777	266	732	259	...	7
Office furniture	123	693	138	751	58	...
Tents	5	348	5	348	...	...
Building materials	23	3,945	26	5,923	1,978	...
Miscellaneous	268	668	298	778	110	...
Elephants	1	1,700	1	1,700	...	...
Total	1,224	7,705	1,228	9,854	2,156	7
JAUNPÁR DIVISION.						
Surveying and other instruments	41	364	46	366	2	...
Machinery	9	44	11	110	66	...
Tools	2,532	3,130	2,469	2,954	...	176
Office furniture	67	362	47	344	...	18
Tents	6	292	6	150	...	142
Buildings	208	27,386	301	30,654	3,268	...
Miscellaneous	314	580	410	402	...	178
Total	3,177	32,158	3,290	34,980	3,336	514
GRAND TOTAL	...	83,709	...	88,961	6,266	1,014

NOTE.—Net difference in favor of the year Rs. 5,252.

ANNUAL FORM No. 57.

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Abstract showing the value of timber and other produce at Sale Depôts for the year 1885-86.

Description of timber and other produce.	*On hand at commencement of the year.*			*On hand at close of the year.*			*Difference in value.*		Remarks.
	Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favor of the year.	Against the year.	
			Rs.			Rs.	Rs.	Rs.	
DEHRA DÚN DIVISION.									
Drift sál logs	2	10	8	1	14	7	...	1	
Do. pine logs	6	70	25	...	...	...	...	25	
Do. sissu, sándan and tún logs.	2	19	6	...	...	...	...	6	
Do. miscellaneous logs ...	1	10	2	...	...	...	...	2	
Do. pieces	14	41	2	1	1	1	...	1	
Do. sál scantlings ...	1	1	1	1	1	1	...	...	
Do. sain ditto	...	...	...	6	12	3	3	...	More fair rates have been adopted this year to estimate the value of stock in hand at close of the year.
Do. chír ditto	...	...	...	1	5	2	2	...	
Do miscellaneous scantlings,	...	...	...	75	98	19	19	...	
Do. tors and poles ...	7	22	3	4	19	3	5	...	
Do. firewood	...	28,886	3,446	...	12,162	1,216	...	2,230	
Total ...	...	...	3,493	...	...	1,257	29	2,265	
SAHÁRANPUR DIVISION.									
Sál timber	312	986	500	107	671	252	...	248	
„ poles	2,058	2,332	981	2,425	10,289	3,852	2,871	...	
„ saplings	1,864	1,164	500	1,939	3,985	1,493	993	...	
Total ...	...	...	1,981	...	...	5,597	3,864	248	
JAUNSÁR DIVISION.									
At Delhi Depôt									
Metre gauge deodár sleepers...	22,895	27,087	34,342	4,964	6,619	8,637	...	25,655	
At Hissar Depôt.									
Metre gauge deodár sleepers...	7,966	10,622	5,975	...	...	...	...	5,975	
In Forest Depôt.									
Broad gauge deodár sleepers...	3,488	11,982	1,719	3,510	12,237	7,020	5,301	...	
Metre ditto ditto ...	20,031	25,115	22,857	15,437	23,018	21,352	...	1,505	
Do. chír sleepers ..	32	135	16	35	145	27	11	...	
10′ deodar logs	154	3,376	39	...	...	...	...	39	
6′ ditto	120	1,600	30	...	...	...	...	30	
Pine and fir scantlings ...	592	2,086	521	1,325	4,763	1,912	1,391	...	
Ditto shikanjas	94	776	194	200	1,381	50	...	144	
Pine logs	221	2,458	614	...	...	...	...	614	
Tún shikanjas	230	3,090	192	296	1,199	74	...	118	
Oak shikanjas	...	...	...	10	40	2	2	...	
Deodar scantlings ...	3,606	7,614	9,520	5,627	9,690	11,469	1,949	...	
Oak pieces	...	...	...	6	6	...	...	...	
Broad gauge chír sleepers ...	...	...	...	33	144	33	33	...	
Chír karris	...	...	...	23	44	12	12	...	
Oak and fir firewood ...	...	29,601	6,512	...	48,480	9,312	2,800	...	
Charcoal	...	2 744	686	...	475	118	...	568	
Total ...	...	...	88,217	...	...	60,068	11,499	34,648	
GRAND TOTAL ...	...	...	88,691	...	...	66,922	15,392	37,161	

NOTE—Net difference against the year, Rs. 21,769.

ANNUAL FORM No. 58—(PRESCRIBED).

FOREST DEPARTMENT SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Summary of Revenue of the different divisions, 1885-86.

Budget Heads Receipts.	Direction.	Debra Dún Division.	Saharanpur Division.	Jaunsár Division.	Total.
I.—Timber and other produce removed from the Forests by Government agency :—	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
(a) Timber	...	12,539 9 7	2 474 1 0	1,43,999 13 2	1 60,013 7 9
(b) Firewood and Charcoal	...	...	750 0 0	20,153 8 10	20,903 8 10
(c) Bamboos	...	...	...	...	...
(d) Sandal-wood	...	...	...	...	...
(e) Grass and other minor produce	...	...	...	...	...
II.—Timber and other produce removed from the forests by consumers or purchasers :—					
(a) Timber	...	44,901 1 3	1,163 2 0	17,023 4 7	63,087 7 10
(b) Firewood and Charcoal	...	7,046 13 0	3,772 15 0	351 4 0	11,171 0 0
(c) Bamboos	...	9 559 15 2	12,595 1 3	265 0 0	22 420 0 5
(d) Grazing and Fodder Grass	...	5,695 13 6	12,570 6 2	2,413 10 0	20,679 13 8
(e) Other minor produce	...	7,589 6 4	7,915 3 6	212 2 6	15,716 12 4
III.—Confiscated drift and waif wood :—	...	11,069 15 4	...	58 4 0	11,128 3 4
IV.—Revenue from forests not managed by Government :—					
(a) Duty on Foreign Timber and other forests produce	...	...	...	9,516 9 11	9,516 9 11
(b) Revenue from shared and private forests	...	...	...	...	...
V.—Miscellaneous —					
(a) Fines and Forfeitures	...	21 10 0	371 13 0	293 3 0	686 10 0
(b) Refunds	296 7 10	8 15 8		55 7 0	360 14 6
(c) Other sources	41 11 0	221 1 6	397 4 3	304 12 9	964 13 6
Total Receipts	338 2 10	99,654 5 4	42,009 14 2	1,94 646 15 9	3,36,649 6 1

ANNUAL FORM No. 58—(*Prescribed*).

Forest Department, School Circle, North-Western Provinces and Oudh.

Summary of Expenditure of the different divisions, 1885-86.

Budget heads.	Direction	Dehra Dún Division.	Saháranpur Division.	Jaunsár Division.	Total.
A.—CONSERVANCY AND WORKS.	Rs. a. p	Rs. a. p.	Rs. a. p	Rs. a. p	Rs. a. p.
I.—Timber and other produce removed from the forest by Government agency:—					
(a) Timber	...	4,940 14 1	1,610 5 7	41,015 12 1	47,566 15 9
(b) Firewood and Charcoal	...	...	...	12,244 12 8	12,244 12 8
(c) Bamboos	...	47 6 0	...	...	47 6 0
(d) Sandal wood	...	...	...	...	...
(e) Grass and other minor produce	...	...	...	...	...
II.—Timber and other produce removed from the forests by consumers or purchasers	...	5,748 10 10	4,478 15 9	...	10,227 10 7
III.—Confiscated drift and waif wood	...	4,367 0 1	...	...	4,367 0 1
IV.—Revenue from forests not managed by Government:—					
(a) Duty on foreign timber and other forest produce	...	...	...	1,648 3 10	1,648 3 10
(b) Revenue from shared and private forests	...	...	...	...	...
V.—Rent of leased forests and payments to shareholders in forests managed by Government	...	3,851 0 0	...	11,150 0 0	14,501 0 0
VI—Live and dead stock:—					
(a) Purchase of cattle	...	...	...	...	...
(b) Feed and keep of cattle	634 11 5	588 6 0	598 3 3	...	1,821 4 8
(c) Plant, tools and instruments	309 6 0	396 8 1	120 0 11	158 4 8	984 3 8
VII.—Communications and buildings:—					
(a) Roads and bridges	2 6 5	3,391 4 6	148 15 10	2,167 12 10	5,710 7 7
(b) Buildings	2,005 7 6	1,869 9 8	1,681 14 10	3,962 8 11	9,010 8 11
(c) Other works	58 14 0	479 5 0	64 12 4	271 11 0	873 10 4
VIII.—Demarcation improvement and extension of forests:—					
(a) Demarcation	...	801 6 6	90 4 6	587 15 4	979 10 4
(b) Compensation for land and rights	...	...	...	300 0 0	300 0 0
(c) Surveys and working plans	...	639 0 7	...	2,025 15 1	2,664 15 8
(d) Plantations	...	947 13 3	1,119 11 7	1,357 3 9	3,424 12 7
(e) Protection from fire	...	3,719 1 5	2,867 0 9	1,292 6 7	7,878 8 9
(f) Other works	...	1,653 15 6	190 9 6	693 8 10	2,533 1 10
IX.—Miscellaneous:—					
(a) Refunds	...	440 0 0	...	...	440 0 0
(b) Law charges	...	55 11 0	30 6 0	35 5 3	121 6 3
(c) Other charges	975 2 11	1,112 13 6	347 10 6	613 15 10	3,049 10 9
Total A—Conservancy and works	3 986 0 3	33,554 14 0	13,338 15 4	79,525 8 8	1,30,405 6 3
B.—ESTABLISHMENTS.					
I.—Salaries:—					
(a) Conservators	12 000 0 0	...	...	...	12,000 0 0
(b) Superior officers	1,830 10 4	13 560 0 0	5,400 0 0	15,182 4 1	35,972 14 5
(c) Subordinate forest and depôt establishments	...	3,492 5 0	1,228 10 0	4,419 10 6	9,140 3 6
(d) Office establishments	1,639 2 3	1,270 8 0	1,137 8 0	1,500 0 0	5,547 2 3
(e) Deputation and special allowances	...	...	...	...	...
II—Travelling allowances:—					
(a) Conservators	1,177 0 0	...	...	...	1,177 0 0
(b) Superior officers	...	1,911 0 10	913 0 0	2,497 14 0	5,321 14 10
(c) Subordinate forest and depôt establishments	...	256 14 8	173 6 8	283 0 0	713 5 4
(d) Office establishments	5 5 4	40 10 8	70 11 0	181 8 8	298 3 8
III—Contingencies:—					
(a) Stationery	8 12 0	56 1 6	16 12 0	78 4 0	159 13 6
(b) Carriage of tents and records	307 4 1	216 11 7	175 9 4	264 11 3	964 4 3
(c) Rents, rates and taxes	...	366 0 0	270 0 0	3 0 0	639 0 0
(d) Pay of police guards	384 7 0	...	...	...	384 7 0
(e) Official postage	128 11 6	124 5 6	123 8 6	125 2 6	501 12 0
(f) Sundries	1,529 6 5	804 15 1	360 15 4	901 9 3	3,666 14 1
Total B.—Establishments	19,030 10 11	22,099 8 10	9,870 0 10	25,437 0 3	76,437 4 10
Grand Total of Expenditure	23,016 11 2	55,654 6 10	23,209 0 2	1,04,962 8 11	2,06,842 11 1

ANNUAL FORM No. 59 (PRESCRIBED.)

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, SCHOOL CIRCLE.

DR. *Annual Account Current for the year* 1885-86. CR.

Heads of Account.	Rs. a. p.	Rs. a. p.	Heads of Account.	Rs. a. p.	Rs. a. p.
To cash balance on 1st April, 1885	...	13,257 13 6	By Expenditure as per Annual Form No. 58	...	2,06,842 11 1
„ Revenue as per Annual Form No. 58	...	3,36,649 6 1	„ Deposits	...	2,579 10 6
„ Service Funds—			„ Forest Cash Remittances (Local) :—		
Uncovenanted Service Family Pension Fund, Bengal ...	...	605 12 0	Remittances to Treasuries	1,46,750 10 11	
„ Deposits	...	3,459 0 0	Inter Divisional Transfers	1,039 8 6	1,47,790 3 5
„ Forest Cash Remittances (Local) :—			„ Advances Recoverable	...	1,48,035 1 3
Forest cheques drawn	2,05,738 6 6		„ Account Current, other Governments :—		
Inter Divisional Transfers	165 8 0	2,05,903 14 6	Government of India	6,492 8 0	
„ Advances Recoverable	...	1,36,217 12 0	Ditto Punjab...	13,100 0 9	19,592 8 9
„ Account Current, other Governments—			„ Inter Departmental Transfers :—		
Government of India	175 4 0		Public Works Department, State Railways, Rajputana and Malwa Railway 1,32,709 11 0		
Ditto of Bengal	600 0 0		Ditto ditto other Branches 26,584 4 6	1,59,293 15 6	
Ditto of Madras	37 13 0	813 1 0	„ Military Department, Bengal	16,978 11 8	1,76,272 11 2
„ Inter Departmental Transfers—			„ Closing Balance on 31st March, 1886	...	...
Public Works Department, other Branches	4,123 12 4				
Civil Departments—					
Mathematical Instrument Department ... 61 4 0					
Jail 18 2 6					
	79 6 0	4,206 2 4			
Total ...	...	7,01,112 13 5	Total ...	...	7,01,112 13 5

CALCUTTA :
The 1st July, 1886.

JAS. TAYLOR,
Assistant Comptroller-General of Forests.

ANNUAL FORM No. 60.—(*Prescribed.*)

Forest Department, School Circle, North-Western Provinces and Oudh.

Revenue received and Outstandings on account of Revenue during 1885-86.

Division.	Particulars.	Outstandings at commencement of year	Value of sales and other revenue during year.	Total.	Amount realised during years.	Balance due to the Department at end of year.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Direction ...	Sale proceeds of timber and other forest produce.	...	338 2 10	338 2 10	338 2 10	...
Dehra Dún ...	Ditto ditto	11,432 8 0	1,09,642 13 4	1,21,075 5 4	99,654 5 4	21,421 0 0
Saháranpur ...	Ditto ditto	79 7 0	44,691 3 6	44,770 10 6	42,009 14 2	2,760 12 4
Jaunsár ...	Ditto ditto	4,552 6 0	1,97,365 14 3	2,01,918 4 3	1,99,586 11 9	2,331 8 6
	Total ...	16,064 5 0	3,52,038 1 11	3,68,102 6 11	(a)3,41,589 2 1	(b)26,513 4 10

Remarks.	Rs.	a.	p.
(a) Amount realised as per form No. 55.	3,36,649	6	1
Amount written off under Local Government sanction No. $\frac{319F.}{175-7}$	2,532	15	0
Ditto ditto No. $\frac{115F.}{449-2}$ dated 6th March, 1886.	289	0	0
Ditto ditto No $\frac{129F.}{462-2}$ dated 19th March, 1886.	2,117	13	0
Total ...	3,41,589	2	1
(b) From Public Department ...	...		
From Private Purchasers ...	26,513	4	10
Total ...	26,513	4	10

ANNUAL FORM No. 61.—(*Prescribed.*)

Forest Department, North-Western Provinces, School Circle.

Outstandings and Liabilities on account of Contractors and Disbursers for 1885-86.

Division.	*Department Debtor.* At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year	*Department Creditor.* At commencement of year.	Payments made during year.	At close of year.	*Balance Due* To Department (outstandings).	By Department (liabilities.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		
Direction		2,231 9 10	2,231 9 10	166 15 0	2 401 13 8	2,568 12 8	237 2 10		
Dehra Dún ...		28,075 5 2	28,075 5 2	625 11 4	29,422 15 2	30,048 10 6	1,973 5 4		
Saháranpur ...		12 554 14 3	12,554 14 3	...	14,367 8 5	14,367 8 5	1,712 10 2		
Jaunsár		93 155 14 9	93,155 14 9	5,092 4 11	1.91,842 12 0	1,06,935 0 11	13 779 2 2		
Total ...		1,26,217 12 0	1,36,217 12 0	5,884 15 3	1,48,035 1 3	1,53,920 0 6	17,702 4 6		

ANNUAL FORM No. 62.—(*Prescribed.*)

Forest Department, School Circle, North-Western Provinces and Oudh.

Financial results of the year 1885-86.

Division.	*Timber and other produce removed from the forests by Government agency.* Receipts	Charges	*Other revenue.* Receipts.	Charges.	*Formation, protection, and improvement of forests.* Charges.	*Total.* Receipts.	Charges.	Remarks.
	Rs.	Rs.	Rs	Rs	Rs	Rs.	Rs	
Direction	...	7,672	338	7.672	7 672	338	23,017	
Dehra Dún	13,266	4,987	86,388	13 594	87,073	99 654	65,654	
Saháranpur	3,224	1 810	38,786	10,510	11,089	42,,110	23,209	
Jaunsár	1,64,153	64,508	30,494	3,898	26,567	1 94,647	1,04,963	
Total ...	1,80,643	78,777	1.56,006	35,675	92,391	3,36,649	2,09,843	

APPENDIX A.

DEHRA DUN DIVISION.

Measurements of growing trees in sample plots during 1885-86.

MADHOWÁLA SAMPLE PLOT.

Species.	Total number of trees.	Total increase in girth in inches.	Increase in girth in inches			Diametrical increase in inches.		
			Average	Maximum	Minimum.	Average	Maximum	Minimum.
			III.—Class.					
Sal ..	14	3 9	0 278	0 9	0·0	0·088	0 296	0 0
Sain .	7	8 1	1 157	3 7	0 0	0 368	1 177	0 0
Other species	7	6 1	0·87	1·9	0 2	0·277	0 604	0 06
			IV.—Class.					
Sál ...	100	17·1	0 17	3·4	—0·7	0·054	1 08	—0 223
Sain	51	39·1	0·77	2 2	0 0	0 245	0 7	0 0
Other species	107	58·3	0·547	2 2	—0 4	0 174	0 7	—0 124
			V.—Class.					
Sál ..	95	18 7	0 196	1 4	—1 7	0 062	0 445	—0 54
Sain ...	96	30 7	0 32	1 8	—0 3	0 102	0 572	—0 095
Other species	87	46 3	0 532	1 6	—0 6	0 169	0·709	—0 19

PHANDOWALA SAMPLE PLOT.

			II.—Class.					
Sal ...	2	1 4	0 7	0·8	0 6	0 223	0 254	0 19
			III.—Class.					
Sal ...	19	8 5	0 45	1·4	—0·9	0 14	0·445	—0·123
			IV.—Class.					
Sál .	125	61·5	0 492	1 9	—0 2	0·157	0·604	—0 063
Other species	11	5·3	0·5	0 8	0 1	0·159	0·254	0 03
			V.—Class.					
Sal	63	14 9	0·236	1 8	—0·8	0 075	0 512	—0 254
Other species	5	2·3	0 46	0 7	0 3	0·146	0·213	0 95

DHOLKHAND SAMPLE PLOT.

Number of tree.	Girth on 1st December, 1882.		Girth on 19th December, 1885		Total increased girth in 3 years.	Mean girth increment in 3 years
	Feet.	Inches.	Feet.	Inches.	Inches.	Inches.
31 ...	1	10 0	2	0 7	2 7	2 75
185 ...	1	7 8	1	10 6	2 8	
16 ...	2	5 8	2	8 1	2 3	2·40
45 ...	2	3 2	2	5 3	2 1	

LAKARKOT SAMPLE PLOT.

Number of tree.	Girth on 1st December, 1882		Girth on 21st December, 1885		Total increased girth in 3 years.	Average girth increment in 3 years
	Feet	Inches	Feet.	Inches.	Inches.	Inches.
116 ...	1	2 0	1	6 3	4·3	4 05
218 ...	1	3 2	1	7 0	3 8	
66 ..	2	2 5	2	4 4	1 9	1 06
115 ...	3	4 1	3	5 5	1 4	

JAUNSÁR DIVISION.

Results of 12 average trees.

Number	Kind	Girth on 15th June, 1884			Girth on 15th June, 1885			Increase in girth during year			Remarks.
		Feet	Inches.	⅛ inch.	Feet.	Inches.	⅛ inch	Feet	Inches.	⅛ inch	
1	Spruce ...	2	5	1	2	6	6		1	5	
2	Karshu ..	3	5	6	3	6	..	...	...	2	
3	Ditto ..	1	8	3	1	9	...	..	..	4	
4	Spruce ...	1	5	4	1	6	...	...	..	4	
5	Karshu ...	1	2	4	1	3	1	...	...	5	
6	Ditto	4	4	7	4	5	3	..	...	4	
7	Ditto ..	...	10	7	...	11	3	...	...	4	
8	Ditto ..	1		2	1	1	...	...	...	6	
9	Ditto ..	2	..	2	2	...	6	...	...	4	
10	Spruce ...	7	8	7	7	9	6	...	...	7	
11	Karshu ...	1	11	7	2	...	1	..	.	2	The area of the plot is about 1 acre and the aver. girth increase is 0·59 inches.
12	Ditto ..	3		..	3	..	2	.	...	2	

APPENDIX B.

Forest Department, School Circle, N.-W. P. and Oudh.

Statement of trees felled during the year 1885-86.

		Selection fellings.								*Thinnings.*						*Clearances.*						Grand Total.	
		By Government Agency.		By Contractors.		By villagers.		Total.		By Government Agency.		By contractors.		By villagers	Total.			By Contractors		By villagers		Total.			
		No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.
Dehra Dún Division.	Sál	2,219	12,783	...	...	25	250	2,244	13,033	562	2,780	16,439	65 725	...	...	16 992	68,505	...	...	...	...	...	...	19,236	81,538
	Sam	2	10	...	...	...	...	2	10	...	...	3,256	9,064	...	...	3,256	9,064	...	...	...	...	...	...	3,25-	9,074
	Tun	10	325	...	...	...	...	10	325	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	325
	Sissu	...	...	32	1,022	...	...	32	1,022	...	...	...	...	...	...	...	...	...	...	...	...	...	...	32	1,022
	Miscellaneous,	92	370	202	7,070	...	...	294	7,440	15,987	25,937	...	...	...	...	15,987	25,937	...	...	...	...	...	...	16,181	33,377
Total ...	1885-86	2,323	13,488	234	8,092	25	250	2,582	21,830	16,449	28,717	19,686	74,789	...	...	36,135	1,03 506	...	...	...	...	...	...	38,717	1,25,336
	1884-85	622	3,288	1,446	26,188	25	465	2,093	29,921	552	2,760	11,115	1,03,826	...	...	11,667	1,06,586	...	...	...	...	...	...	13,760	1,36,507
Saháranpur Division	Sál ...	...	...	...	...	...	...	...	...	5 988	16,881	...	...	...	...	5,988	16,881	...	...	...	...	...	...	5,988	16,881
Total ...	1885 86	...	...	...	...	...	...	...	...	5,988	16,881	...	...	...	...	5,988	16,881	...	...	...	...	...	...	5,988	16,881
	1884-85	...	...	...	...	...	...	...	...	8,900	11,266	...	...	...	...	8,900	11,266	...	...	...	...	...	...	8,900	11,266
Jaunsár Division.	Fir and Pine...	330	26,400	1,514	1,21,120	1,009	80,720	2 853	2,28,240	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,853	2,28,240
	Oak ...	333	9,990	...	...	21	630	354	10,620	85	2,550	...	...	...	...	85	2,550	...	...	...	...	...	...	439	13,170
	Deodar ...	1,744	1,74,400	924	92,400	247	24,700	2,915	2,91,500	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,915	2,91,500
	Sal ...	...	...	4	20	59	295	63	315	...	...	...	...	...	...	...	...	...	...	...	...	...	...	63	315
	Tun ...	57	285	...	...	...	...	57	285	...	...	...	...	...	...	...	...	...	...	...	...	...	...	57	285
	Boxwood ...	1	6	247	1,482	...	...	248	1 488	...	...	...	...	...	...	...	...	...	...	...	...	...	...	248	1,488
	Miscellaneous,	...	...	18	65	89	445	102	510	...	...	...	...	...	...	...	...	...	...	...	...	...	...	102	510
Total ...	1885-86	2,465	2,11,081	2,702	2,15,087	1,425	1,06,790	6,592	5,32,958	85	2,550	...	...	...	...	85	2,550	...	...	...	...	...	...	6,677	5 35,508
	1884 85	1,676	2,26,070	4,367	6,87,215	5,963	4,65,565	12,006	13,78,850	545	29,651	...	...	...	...	545	29,651	1,735	9,000	...	...	1,735	9,000	14,286	14,17,501
Circle.	Sál ...	2,219	12,783	4	20	84	545	2,307	13,348	6,550	19,661	16,439	65.725	...	...	22,989	85,386	...	...	...	...	...	...	25,297	98 734
	Sam ...	2	10	...	...	...	...	2	10	...	...	3,256	9,064	...	...	3,256	9,064	...	...	...	...	...	...	3,258	9,074
	Tun ...	67	610	...	...	...	...	67	610	...	...	...	...	...	...	...	...	...	...	...	...	...	...	67	610
	Sissu ...	...	...	32	1,022	...	...	32	1,022	...	...	...	...	...	...	...	...	...	...	...	...	...	...	32	1,022
	Fir and Pine ..	330	26,400	1,514	1,21,120	1,009	80,720	2,853	2,28,240	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,853	2,28 240
	Oak ...	333	9,990	...	...	31	630	354	10,620	85	2,550	...	...	...	...	85	2 550	...	...	...	...	...	...	439	13,170
	Deodar ...	1,744	1,74,400	924	92,400	247	24,700	2,915	2,91,500	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,915	2,91.500
	Boxwood ...	1	6	247	1,482	...	...	248	1,488	...	...	...	...	...	...	...	...	...	...	...	...	...	...	248	1 488
	Miscellaneous,	92	370	215	7,135	89	445	396	7,950	15,837	25,937	...	...	...	...	15,837	25,937	...	...	...	...	...	...	16,283	33,887
Grand Total	1885-86	4,788	2,24,569	2,936	2,23,179	1,460	1,07,046	9.174	5,54.788	22,522	48,148	19,686	74.789	...	...	42,208	1,22 937	...	...	...	...	...	...	51,382	6,77,725
	1884-85	2,298	2,29,358	5,813	7,13,383	5,988	4.66,030	14,099	14,08,771	9,997	43 677	11,115	1,03,826	...	...	21,112	1,47,503	1,735	9,000	...	...	1,735	9,000	26 946	15.65 274
	1883 84	1,459	1,84,689	1,232	44,430	11,968	12,80,732	14,659	15,09,851	267	33,967	4,938	98,760	...	...	5,225	1,32,727	...	...	...	...	...	...	19,884	16,42,578

APPENDIX C.

Yield in produce.

Description of produce		1884-85		1885 86		Remarks
		Quantity	Value	Quantity	Value	
Dehra Dún Division.						
Timber	c ft.	1,81,264	43 885	1 27,870	57,202	
Poles	No	15,772	3 147	39,933	14 187	
Saplings	No	11,584	2 807	16 128	2 472	
Bamboos, bannes	(scores)	70 284	8,158	72,375	9 583	
Firewood	c ft	2,94,450	12,513	3 90,103	12 430	
Charcoal	Do	...	..	544	17	
Minor produce, &c.		...	9,787	...	6 461	
Grazing dues		...	8,,24	...	5,696	
	Total	...	88,071	...	1,07,998	
Saharanpur.						
Timber	c ft	19,049	5 017	3 536	972	
Poles	No	7 174	3 622	12,920	4 412	
Saplings	No	1,925	501	5 928	2,151	
Bamboos	(scores)	28 281	3,594	87,244	12 795	
Firewood	c ft.	3,75,828	7,380	2 18, 96	5,741	
Charcoal	Do	...	..	1,224	278	
Minor produce, &c		...	5 916	..	8,136	
Grazing dues		...	10,490	...	13 490	
	Total	...	36,970	...	47,770	
Jaunsár.						
Timber	c ft	12,23,888	69 077	4,15,758	95,230	
Saplings	No	968	235	1 419	289	
Bamboos	(scores)	27,015	348	20,555	277	
Firewood	c ft	57 993	0,292	1,28,690	21 348	
Charcoal	Do	850	80	3,872	478	
Minor produce, &c		...	210	...	212	
Grazing dues		...	3,018	...	2 414	
	Total	...	82,255	..	1,20,248	
Total for the Circle						
Timber	c ft	14 24,199	1,17,479	5,47,164	1,53,404	
Poles	No.	22,946	6,769	52 853	18,749	
Saplings	No,	14,427	3,543	23 470	4,712	
Bamboos	(scores)	1 20 580	12,100	1,80,174	22 455	
Firewood	c ft	7,28,211	29,635	7,36 939	39,519	
Charcoal	Do	850	80	5,640	703	
Minor produce, &c.		...	15,863	...	14,809	
Grazing dues		...	21,827		21,600	
	Grand Total	...	2,07,296	...	2,76,016	

APPENDIX D.

Disposal of produce collected by Government Agency.

Description of produce.	Sold locally.				Department transactions.															
					Balance in hand at commencement of year.				Brought to depôt.				Total received in depôt.				Removed by purchasers from depôt.			
	1884-85.		1885-86.		1884-85.		1885-86.		1884-85.		1885-86.		1884-85.		1885-86.		1884-85.		1885-86.	
	Quantity.	Value.	Quantity.	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Dehra Dún Division.		Rs		Rs.		Rs.		Rs		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Timber, cubic feet ...	...	...	...	...	...	...	151	44	6,976	2,617	9,948	7,195	6,976	2,617	10,096	7,239	6,825	2,573	9,964	7,206
Poles, &c., number ...	...	...	...	...	...	...	7	3	564	203	16,167	8,705	564	203	16,174	8,708	557	200	16,170	8,700
Firewood, cubic feet ...	...	...	...	...	...	...	28,886	3,446	60,370	5,198	56,422	5,417	60,370	5,198	85,308	8,863	31,484	1,752	73,146	7,647
Bamboos, number ...	...	...	...	...	...	...	...	...	...	...	1,220	20	...	...	1,220	20	...	...	1,220	20
Total ...	...	...	...	...	...	...	...	3,493	...	8,018	...	21,337	...	8,018	...	24,830	...	4,525	...	23,573
Saháranpur Division.																				
Timber, cubic feet ...	11	2	...	...	...	...	986	500	1,000	505	684	257	1,000	505	1,670	757	14	5	978	465
Poles, cubic feet ...	...	...	...	...	...	...	2,333	981	9,101	3,501	10,644	3,935	9,101	3,501	12,976	4,966	6,769	2,520	2,559	1,906
Saplings, cubic feet ...	...	...	...	...	...	...	1,164	500	1,165	500	5,553	2,081	1,165	500	6,717	2,581	1	...	2,660	1,003
Firewood, cubic feet ...	...	...	76,959	2,025	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	...	2	...	2,025	...	...	...	1,981	...	4,506	...	6,323	...	4,506	...	8 304	...	2,525	...	2,474
Jaunsár Division.																				
Timber, cubic feet ...	64,150	78,901	...	...	21,397	22,165	45,295	49,859	56,742	72,786	1,38,141	1,52,912	78,139	94,951	1,83,436	2,02,771	32,383	44,516	1,13,006	1,43,177
Firewood, cubic feet ...	5,534	781	14,721	1,324	5,967	895	{ 29,601 / 44,400 }	6,512	88,993	22,329	1,00,520	20,742	94,960	23,224	1,44,920	27,254	65,359	16,712	95,970	17,878
Charcoal cubic feet ...	...	...	2,512	399	3,386	1,058	2,744	686	...	...	40	10	3,386	1,058	2,784	696	641	198	2,307	552
Total ...	...	79,682	...	1,723	...	24,118	...	57,057	...	95,115	...	1,73,664	...	11,9,233	...	2,30,721	...	61,426	...	1,61,607
Total for the Circle.																				
Timber, cubic feet ...	64,161	78,903	...	...	21,397	22,165	46,432	50,403	64,718	75,908	1,48,770	1,60,364	86,115	98,073	1,95,202	2,10,767	39,222	47,094	1,23,948	1,50,848
Poles and Saplings, cubic ft.	...	...	...	...	...	...	3,503	1,484	10,830	4,704	32,364	14 771	10,830	4,204	35,867	16,255	7,327	2,720	...	10,709
Firewood, cubic feet ...	5,534	781	91,680	3,349	5,967	895	73,286	9,958	1,49,363	27,527	1,56,942	26,159	1,55,330	28,422	2,30,228	38,127	96,843	18,464	1,69,116	25,525
Charcoal, cubic feet ...	...	...	2,512	399	3,386	1,058	2,744	686	...	...	40	10	3,386	1,058	2,784	696	641	198	3,527	572
Bamboos number ...	...	...	...	...	...	...	...	...	...	...	1,220	20	...	...	1,220	20	...	...	...	...
Grand Total ...	...	79,684	...	3,748	...	24,118	...	62,531	...	1,07,639	...	2,01,324	...	1,31,757	...	2,63,855	...	68,476	...	1,87,654

APPENDIX D.

Disposal of Produce collected by Government Agency—(concluded.)

Description of produce.	Department transactions.																						Remarks.
	Lost or written off as useless				*Used by the Departme t from depôt.*				*Converted in depôt.*				*Transferred to the Forest School.*				*Total issued from depôt.*				*Balance in hand at close of the year.*				
	1884-85.		1885-86.		1884-85.		1885-86.		1884-85.		1885-86.		1884-85.		1885-86.		1884-85.		1885-86.		1884-85.		1885-86.		
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value	Quantity.	Value.	Quantity.	Value	Quantity.	Value	Quantity.	Value.	Quantity.	Value	Quantity.	Value.	
Dehra Dún Division.		Rs.		Rs.		Rs.		Rs.		Rs		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.	
Timber, cubic feet ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6,825	2,573	9,964	7,206	151	44	132	33	
Poles, &c., number ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	557	200	16,170	3,700	7	3	4	3	
Firewood, cubic feet ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	31,484	1,752	73,146	7,647	28,986	3,446	12,162	1,216	
Bamboos, number ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,220	20	...	...	...	...	
Total ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4,525	...	23,573	...	3,493	...	1,257	
Saharanpur Division.																									
Timber, cubic feet ...	...	...	...	*32	...	...	21	8	...	...	...	...	...	...	...	...	14	5	999	505	986	500	671	252	
Poles, cubic feet ...	...	...	...	*60	...	...	128	48	...	...	...	...	...	...	...	...	6,769	2,520	2,687	1,114	2,332	991	10,289	3,852	
Saplings, cubic feet ...	...	...	...	*58	...	...	72	27	...	...	...	...	...	...	...	...	1	...	2,732	1,088	1,164	500	3,985	1,493	
Firewood, cubic feet ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Total ...	...	...	...	150	...	...	...	83	...	...	...	...	...	...	...	...	...	2,525	...	2,707	...	1,981	...	5,597	
Jaunsár Division.																									
Timber, cubic feet ...	...	...	2,311	289	461	576	9,570	7,177	...	...	7,213	902	...	...	428	588	32,844	45,092	1,32,528	1,52,133	45,295	49,859	1,50,908	50,638	
Firewood, cubic feet ...	...	...	279	54	...	...	200	10	...	...	...	...	...	...	...	...	65,359	16,712	96,440	17,942	29,601	6,512	48,480	9 312	
Charcoal, cubic feet ...	...	*174	...	*26	1	...	2	...	...	...	...	...	...	...	...	...	642	372	2,309	578	2,744	686	475	118	
Total ...	...	174	...	369	...	576	...	7,187	...	...	...	902	...	...	...	588	...	62,176	...	1,70,653	...	57,057	...	60,068	
Total for the Circle.																									
Timber, cubic feet ...	...	...	2,311	321	461	576	9,591	7,185	...	...	7,213	902	...	...	428	588	39,683	47,670	1,43,491	1,59,844	46,432	50,403	1,51,711	50,923	
Poles and Saplings, cubic feet.	...	...	279	118	...	...	200	75	...	...	...	...	...	...	...	...	7,327	2,720	21,589	10,902	3,503	1,484	14,278	5,353	
Firewood, cubic feet ...	...	...	...	54	...	...	200	10	...	...	...	...	...	...	...	...	96,843	18,464	1,69,586	25,589	58,487	9,958	60,642	10,528	
Charcoal, cubic feet ...	...	*174	...	*26	1	...	2	...	...	...	...	...	...	...	...	...	642	372	2,309	578	2,744	686	475	118	
Bamboos ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,220	20	...	...	...	...	
Grand Total ...	...	174	...	519	...	576	...	7,270	...	...	...	902	...	...	...	588	...	69,226	...	1,96,933	...	62,531	...	66,922	

APPENDIX E.

Stock Account.

	On hand at commencement of the year										On hand at close of year										Increase or decrease in value				
	Dehra Dún.		*Saháranpur*		*Jaunsár.*		*Direction*		*Total.*		*Dehra Dun*		*Saháranpur.*		*Jaunsár.*		*Direction.*		*Total.*						
	C ft.	Value.	C ft.	Value	C ft	Value	C ft	Value.	C.ft.	Value.	C ft.	Value	C ft.	Value	C.ft.	Value.	C ft.	Value.	C ft.	Value	Dehra Dún.	Sahánpur	Jaunsár.	Direction.	Total.
Timber ...	173	47	4,482	1,981	95,881	76,019	...	...	1,00,536	78,047	151	41	14,945	5,597	59,226	50,638	..	...	74,382	56,276	—6	+3,616	—25,381	..	—21,771
Firewood and charcoal.	28,886	3,446	...	...	32,345	7,193	..	..	61,231	10,644	12,162	1,216	...	...	48,955	9,430	...	...	61,117	10,646	—2,230	..	+2,232	...	+2
Live stock ...	...	2,800	...	1,700	..	...	...	2,000	...	6,500	...	2,800	...	1,700	.	...	...	2,000	..	6,500	...	...	...	...	...
Dead stock, including buildings, furniture, &c	...	16,272	...	6,005	...	82,158	.	22,774	...	77,209	...	16,595	...	8,154	...	34,980	...	22,732	...	82,461	+323	+2,149	+2,822	—42	+5,252
Total ...	...	22,565	...	9,686	...	1,15,375	..	24,774	...	1,72,400	...	20,652	..	15,851	...	95,043	...	24,73.	...	1,55,833	—1,913	+5,765	—20,327	—42	—16,517

APPENDIX F.

PLANTATION WORK IN THE SCHOOL CIRCLE.

Dehra Dun Division.

Ramgarh.—Four thousand four hundred and eighty-five plants, chiefly sál, were put out in the Ram garh plantation, and the plants protected against frost and heat by cowls. The total cost of maintenance of this plantation of 2¼ acres was Rs 204.

Phándowala.—Nine hundred and fifty sál and 760 tun plants were put out in the Phándowala plant ation to fill up vacancies, at a cost of Rs 61.

Jaberkhet plantation.—In the old area of 1884, it was found that about 9,000 sál plants had died from frost, and last rains these vacancies were filled up with one year old transplants, but they are not healthy and have made no progress whatever About 60 per cent. are still living.

In the area sown broadcast in 1884, pits were dug 7 feet apart and a dozen seeds sown in each. The young plants are, as a rule, healthy and vigorous, 6 to 8 inches high Percentage of success is about 80.

A new area, about 10 acres, was taken up last rains and about 12,000 plants put out from the nursery. Many of them died in October before the frosts had set in, and those that are living are not flourishing

The percentage of success is about 35

The total expenditure on this plantation was Rs 393

Parduni bamboo nursery.—A most successful bamboo nursery has been made at Parduni on well-manured ground at a cost of Rs 290. There are 64 beds four feet wide, separated by paths. The plants have come up well and the most forward are three to four feet high. They will be thinned out in the rains and the plants put out in the Johra block.

Saharanpur Division

Bám and Gaujarbán plantations, area 16 acres.—In the Bam and Gaujarban plantations the old seedlings were thinned out and planted in 9 514 patches which had been prepared for them at a cost of Rs. 186 These transplants are thriving The nurseries attached to the plantations were sown at first with sál, but as all the seed was bad and did not germinate, kokat species were afterwards sown The cost of the nurseries was Rs. 41.

Sendhli plantation, 8 acres.—The Sendhli plantation shows a great many blanks The year when this plantation was first started (1883) was most unfavourable; the seeding was bad and the rains were interrupted by long breaks of hot weather, 225 pits were planted at a cost of Rs 4

Tira coppice plantation.—Two thousand three hundred and thirty-five plants of shisham, gosham, khair, kikar, and sirís were put out into compartment 1 of the Tira block from the nursery at a cost of Rs 110, but most of them failed

The shisham, however, are doing well. The nursery has been again prepared at a cost of Re 1 for sowing with various kokat species. The transplants will this year be brought from the Bam nursery

Ránipur plantation.—In Ránipur, the nursery was sown at a cost of Rs 14 with bamboo, shisham, mohwa, and other species, but only a few bamboo and shisham succeeded 1,768 plants of shisham, sain, tún, sirís, and mohwa were planted out from the nursery at a cost of Rs. 84.

In Patri, compartment 22 was planted up with 500 plants of jáman, tún, papri, mango, mohwa, &c. at a cost of Rs 26 The plants were taken from a nursery in compartment 18 near the Ferozpur bungalow These transplants are doing well. The nursery was cleared and sown at a cost of Rs 4 : and next year a large nursery will be made in compartment 18 and sown with karha (*dálbergia procera*) tún, karak, chúna (*celtis Roxburghii*), papri, and mulberry

The Patri plantations, 80¼ acres, were taken over from the Superintendent of the Government Workshops at Roorkee in 1880 81 Up to that time 62 compartments, one to 18 acres, had been completed In 1881 82, ten additional acres of plantation were undertaken in 1882-83, four and a half more acres, in 1883 84, four acres, and in 1885 86, about 0 1 acre, but none of these additions are complete

Jaunsar Division

Deoban range.—The extensions of the year only consisted of about eight acres in a blank, and about 22 acres under large trees

The eight acre extension was in the *Kanyátra* block, and the work done was sowing 7,085 pits (1 × 1 × 1) 5 feet apart in the line and the lines 7 feet apart. Alternate deodar and kail was the plan adopted.

The sowing was done in May, the deodar germinating well in June, and the kail in July

As usual, however, the seedlings immediately began to die off It cannot have here been due to exposure to a hot sun, perhaps it was merely want of vitality in the seed. Mr Moir thought it might

have been due to insects or birds. The kail is said to have died more during the winter. About half of the pits were found empty at the close of the year, the proportions of deodar and kail alone being about equal What has remained is thriving Since the close of the year, the empty pits have been resown with deodar, but this will of course be referred to in next year's report

One advantage in sowing in the spring is that germination follows quickly, giving less opportunity to birds to cause damage.

Kanjátra sowings.—The extension under forest consisted of about 22 acres of spruce and silver fir sowing in Kanjátra, which was done by cutting lines (6" deep × 1' broad) along the contours, one above another, for a total length of 1,415 chains (1 *c*, 17½ miles), one line containing spruce and the next silver fir, except above the Bodgar road, where only spruce was sown This sowing took place in April and May, and one maund fifteen seers of spruce seed with three maunds six seers of silver fir seed was used. Germination took place in June, July, and August with considerable success, but since the winter very large numbers of seedlings have died off, but such as have remained are thriving well and the operation can certainly be considered successful. It might be noted with advantage that the place is steep and has a north aspect, and that the forest consists of old silver fir and spruce trees with next to no reproduction on the soil. The forester suggests that the failures are due either to insects (which cut the young plant in half at the ground line) or to the earth being too loose (so that the root does not get sufficient hold), or, finally, to the long dead grass falling across the lines. Since the close of the financial year the lines have been cleaned and spruce has been sown at points were gaps were found, while the earth was stamped down over the seed. This, however, is a matter for next year's report Since the close of the year, the students of the Forest School have made counting, in two different parts of the area, and considering that each 4 feet length of line containing seedlings was a success, while each 4 feet length that was bare was a failure, the results are —

	Success
Spruce	39 7 per cent.
Silver fir	54 6 ,,
Average	47 2 ,

The total expenditure on this work was Rs 187.

Korwa.—At Korwa, the following work was done according to the forester in charge re sowing 339 pits during April with six seers of deodar, and afterwards in July, when germination failed re sowing in the same pits 1¼ chitak, of the very light seed of the babul; re sowing 340 pits with 31 seers of ban oak in April and 321 pits with 10 chittacks of kail in June.

It is said that only a few ban seem to have succeeded. The kail and babúl are said to have germinated, but the deodar did not

Chakrata Cantonment plantations.—In the Lorh Cantonment block, the following work was done in April, sowing in pits being followed —

5,327—11 seers deodar and 1 maund 18 seers ban oak
1587—22 seers of deodar
2 456—1 maund 31 seers bán, and in July
1,466—with kail.

The result is stated to be that the kail is doing very well and the deodar and bán oak are safe in shady places

In the Suitoli Cantonment block, 7,206 pits were sown in June and July with 11 seers 5 chitaks of kail The result is reported to be satisfactory in shady places

Mohna plantation.—In Mohna the following work was done in compartment 9, sown in April —

Two thousand four hundred and sixty pits with 8½ seers of deodar. But these pits apparently completely failed and the whole number of 2,460 pits were resown with kail in July In addition, in compartment II 8,400 pits were sown in that month with 7½ seers of kail The result is very good in compartment II and less so in compartment 9

In Mohna also, in compartment II, 1,542 plants were put out in July and are doing well.

Bodlár plantation.—In Bodlár, the following work was done —15,000 pits were dug among the old plantations in June and sown with kail, in order to form nurses for the already planted deodar, which requires protection and support.

In addition, 7,627 old pits where deodar plants had failed were cleared and sown with kail in August. All the seeds germinated well, but great damage was done by the pheasants, which ate the seeds and rooted up the young plants However, an observation in April, 1886 showed that many pits on shady aspects contain thriving plants, but the pits on the hot slopes hardly contained any plants at all. I directed the forest guard to go round with a coolie and cut a handful or two of grass, which will be spread over existing seedlings

In May, these works were inspected, in no single instance had a failure occurred where the grass had been spread.

Owing to failure of plants in the Deota plantations of 1884 from want of drainage, great care was taken everywhere in the division to make a cut in the soil at the lower edge of each pit in order to prevent accumulation of moisture, and in Bodágar above 20,000 pits were drained in this way. In these pits also the grass was cleared, and the three works cost about Rs. 25.

Nurseries.—On the Deothát, Duranu and Jádi (box) nurseries Rs. 29 was spent in weeding, fencing, sowing, &c.

Konain Range.—Apparently only a very little work done here, *viz.*:—

In Chorli the 400 old spaces (5′×5′) were cleaned and replanted where 250 failures had occurred, ten plants being placed in each space.

Edwar Range.—In Kathián, 2,000 pits were dug and sown with kail, the pits being situated as a rule not more than 5 feet from existing deodar plants. In July, all the seeds were reported to have germinated well. The sowing is very fairly successful, the aspect being cool.

Rs 5-4-0 were spent on the Mundáli nursery, which is, however, a failure.

Deota Range plantations.—Owing to the financial pressure, no extension of plantations was undertaken. Existing plantations, however, had their failures filled in and a little kail and deodar sowing was done in Partil.

The work done was as follows :—Filling in failures in July and August :—

In Pártil	...	...	...	...	...	2,788
In Temple	...	...	...	...	...	80
In Jaurási	...	...	...	...	...	540
				Total	...	3,308

Rs. 67-3-0 were spent on moving these plants from the nurseries to the plantations and in clearing away the grass. Rs. 23, however, were further spent in draining pits.

The Forest Ranger notes that the following plants were found alive from former years :—

In Pártil	...	...	...	...	...	8,804
In Temple	...	...	...	...	...	660
In Jaurási	...	...	...	...	...	4,060
				Total	...	13,524

In addition, in November, 1,110 pits in Pártil were sown up with 2 seers of deodar and 2 seers of kail.

Nurseries.—All the nurseries, with the exception of nursery No. 2 (the old No. 3) were cleaned and sown up with deodar (17 seers). One of these nurseries was made during the year, so that now there are six nurseries in the Deota forest. The new nursery (a small one) is, however, on a badly-chosen site.

Dátmir Forest, box plantation.—Fourteen hundred box plants were put out from a nursery in pits in July and August in a blank of about two acres in the forest. These plants were about five and three years old. When inspected in March, the three-year seedlings looked well, the others less well.

Kotigád Range plantation.—The work was confined to sowing. During the rains 24,200 old pits were cleared and resown with 26 seers of kail (at a cost of Rs. 136).

As usual the germination was magnificent, and again, as usual, the young plants began to die off rapidly, so that only some 5,000 or 6,000 plants remain from that operation. It was supposed that the great heat to which this bare slope is exposed was the cause of this, and the experiment was made of placing grass shades over plants just germinated with apparently good results; but the trial was on too small a scale, and I have now directed it to be extended. With this object, 23,600 of the same pits were resown in December, half with deodar and half with kail. As yet, however, the germination is not sufficiently far advanced to enable me to report on the point. I think, however, that so much is clear, *viz*, that the heat just after germination is too great for the larger number of the plants, but, in addition, probably crows and insects have a good deal to do with the failures, the great heat being most probably the most destructive of these bad influences.

The pits have been counted up with the following results :—

Pits sown with deodar, not shaded artificially—

Successes	...	...	...	...	...	4,370
Failures	...	...	...	...	...	18,311
				Total	...	22,681

Pits similarly sown, but shaded artificially—

Successes	...	...	...	...	...	4 486
Failures...	...	...	...	...	...	514
				Total	...	5,000

In the same block, an experiment is being made with two seers of deodar seed and one seer of kail seed mixed together, and dibbled in over about 1½ acres of ground.

In addition, 1,000 pits were sown in Garasni with 1½ seer of deodar. The germination is only now beginning.

Besides this, in Garasni, five seers of deodar were sown over about two acres of small blanks among the kail. The seed is just germinating.

In Munarpáni Rs. 6.8 were spent on clearing old patches that had become grown over.

Nurseries.—A new nursery was made in Dámpti (100′×50′) and sown with 9½ seers of deodar. Two other old nurseries, one near the old tramway and one in Chakora, were cleared and sown. The others were abandoned and no longer required.

Deogarh Range.—Owing to the financial pressure, the work here was only undertaken on a small scale 510 old pits on the Lambidhár in Morach were sown with one seer of kail and one seer of deodar.

A new nursery was constructed on the Lambidhár (about 60′×90′) and sown with 12½ seers of deodar and 12½ of kail. The nurseries in Chájpur were cleaned and sown.

ORDERS OF GOVERNMENT.

No. $\frac{618F.}{569-4}$ OF 1886.

RESOLUTION.

REVENUE (FORESTS) DEPARTMENT.

Dated Allahabad, the 16th December, 1886.

READ—

Annual Progress Reports of the Administration of the Forest Department, North-Western Provinces and Oudh, for the year ending 30th March, 1886.

OBSERVATIONS.—The reports were received from the Press on the 16th October. They would have been in the hands of Government at a much earlier date but for delay in the revision of the proof of the School Circle Report by the Conservator. Mr. Fisher explains that in conformity with the orders of Government he was obliged, after his report had been prepared, to revise it throughout with the object of curtailing its length. As the wishes of the Government respecting the size and character of these reports were communicated to Conservators in March, this revision and consequent delay might have been readily avoided.

2. Mr. Greig held charge of the Central Circle throughout the year, but proceeded on leave shortly after its close, leaving his successor, Mr. Bagshawe, to submit the report. It is understood, however, that about half the report was completed by Mr. Greig himself. Captain Wood and Mr. Fisher remained throughout the year respectively in charge of the Oudh and School Circles.

3. The areas of the reserved forests at the beginning and end of the year are shown in the following statement:—

Circles.	*In square miles.*			
	At commencement of the year.	Added during the year.	Excluded during the year.	At end of the year.
Central	1,471	132	...	1,603
Oudh	1,194	...	...	1,194
School	764	39	...	803
Total ...	3,429	171	...	3,600

The area excluded during the year amounted to less than half a square mile. In the Central Circle 29 acres were made over to the Public Works Department, and in the School Circle some 215 acres were lost by rectification of boundaries in the Land Settlement Department, and by the exclusion of two small blocks, hitherto held by the Department, from the renewed lease of the Tehri forests. The added area of 132 square miles in the Central Circle comprises the forests formerly held by the defunct Kumaun Iron Works Company, and now made over to the Department. Their inclusion in the returns for 1885-86 was premature; as although a preliminary notification under section 4 has issued, they cannot be formally declared "reserved" until the demarcation of the boundaries and the settlement of village rights have been completed.

4. The increase of 39 square miles claimed by the School Circle requires some explanation. From the Conservator's report it might perhaps be supposed that the new lease concluded with the Rája of Tehri has given the Department an additional area of forest. This is not the case. By the new lease in fact the Department lost instead of gaining territory. But this is not apparent from the returns, as they exclude all areas which have not been demarcated and valued, and up to 1885 most of the Tehri forests were in this category. In the year under report 25,000 acres or 39 square miles of these forests were demarcated by Mr. Hearle, and this area has been added to the acreage return of reserved forests. The area of the still undemarcated and excluded portion of the Tehri forests is not stated. They fall, it may be noted, into two great divisions: the first division comprising mature forests of deodár in the remote valleys of the Tons and Pabar to the north of Chakráta; and the second an extensive tract of straggling, under-sized forest along the upper reaches of the Ganges beyond Hardwár. The latter is described in the lease under the general title of the Sheopuri forest. It is of little pecuniary value, and it was included in the renewed lease chiefly in the interests of the Irrigation Department and the head-works of the Ganges Canal. In the Oudh Circle doubt still exists as to the exact area of the reserved forests. The Conservator has very properly decided to accept the alterations made in the figures for 1884-85 by his *locum tenens* until the areas can be accurately worked out. This matter should be pushed on to completion. The only protected forests in the province are in the Central Circle. During the year the area was reduced from 99 to 73 square miles by the surrender of the Airideo forest near Ránikhet to the local authorities to be dealt with as a district forest. The Bánda forests in the Central Circle, measuring 118 square miles, are difficult to classify. Though administered generally on forest principles, they have not yet been formally brought under the Forest Act, and are under the direct management of the Collector. These forests are shown in form No. 40 of the Circle returns, as are also the protected forests. It would be well if the heading of the form were revised by the Conservator and the form itself sub-divided so as to show clearly that it includes protected forests and the Bánda forests. No "district" forests are shown in this return in any Circle, but in form No. 55 for the Central Circle some small receipts on account of minor forest produce are entered under the sub-head of "district forests." An explanatory note as to this entry might be inserted next year in the return.

5. Progress was made in all the Circles in demarcating boundaries, and care taken to maintain existing boundary pillars. The total expenditure on this object incurred during the year was Rs. 7,554 against Rs. 7,396 in 1884-85. In the Central Circle the demarcation of the Kumaun Iron Company's forests is said to have "progressed from some unexplained cause" with extraordinary slowness. The matter has been separately before the Government, with the result that the Settlement Officer has been exonerated from negligence. The forests in question are interspersed with frequent patches of cultivation, and numerous private rights of an intricate character had to be enquired into and determined.

In the Oudh Circle the Conservator notices (paragraph 9) the inaction of the Nipálese authorities with regard to clearing the boundary on the Nipál side. The Darbár has lately issued, at the instance of the Government of India, stringent orders on the subject to the officials responsible for the work, and the boundary lines will probably be kept in future in better order. In the School Circle the demarcation work performed by Mr. Hearle in the leased forests of Tehri-Garhwál was completed by the erection of boundary pillars. In all the Circles the work of inspecting existing boundary marks seems to have been properly performed by the respective officers. The rules issued in the School Circle (paragraph 11) to enforce the responsibility of forest guards, rangers, and divisional officers in this respect seem well suited for adoption elsewhere: they will be brought to the attention of the Conservators of the Oudh and Central Circles.

6. *Surveys, working plans, &c.*—The expenditure under this head in each Circle as compared with that in the previous year was as follows:—

Circles.	1884-85.	1885-86.
	Rs.	Rs.
Central	2,691	1,407
Oudh	...	1,052
School	2,465	2,664

In the Central Circle permanent working plans for all the hill divisions are said to be progressing towards completion in the Dehra office. In this Circle survey work is practically finished, and it remains with the School Conservator to see that the data compiled by Messrs. Fernandez and Hearle are rapidly worked out into useful and practical plans. In one case that came before the Lieutenant-Governor in the course of the year, he had to notice the inconvenient prolixity of discussion in a plan submitted for his approval, which from the character and position of the forest could not after all be applied. He trusts that the plans, which are now under preparation, will be confined to a short business-like statement of the present condition of each forest, and the proper system of working, maintaining, and improving it. The necessity of the early completion of these plans in the provincial forests has been repeatedly pointed out, in the interests not only of the Government, but of the officers who succeed each other in the administration of them. And however interesting and valuable may be the dissertations which the examination of them suggests, these must be separately considered if the several plans are to be brought to a speedy completion. In the Oudh Circle none of the permanent plans are yet in an advanced stage, and the fellings and export are still regulated by the temporary plans which have from time to time been sanctioned. The commencement made in the Kheri Division by a party from the School was interrupted by a change of method induced by a further experience of the forests; but 6,000 acres were carefully surveyed with results very creditable to the more summary estimates of the Conservator which have hitherto guided the felling, and a sound basis has

been given for more rapid progress in the present winter. In the School Circle good work was done by Mr. Hearle in his valuation of the leased forests in the Tons valley and by Mr. Fernandez. The necessity noticed by the Conservator for working plans for the Chakráta fuel forests and the Siwálik forests should not be lost sight of.

7. *Establishments.*—Little mention is made of the conduct of the subordinate establishments in the reports for the Central and Oudh Circles. It is to be hoped that this silence implies satisfaction; but the Government would wish to be kept specifically informed of any improvement in the conduct or intelligence of the subordinate establishment resulting from the recent rules, which have materially improved the position and prospects of the subordinate establishment throughout the Central and School Circles, and from the training now afforded by the Forest School at Dehra. The difficulty or ease experienced in obtaining competent recruits should also not be unnoticed. The Lieutenant-Governor observes with pleasure that the Conservator of the School Circle has been able to report on the whole an improvement among the foresters and rangers. The reduction effected by some of them in the cost of fire protection is very encouraging, and the promotions awarded appear to have been well-earned.

8. *Breaches of forest law.*—The number of persons brought before the Courts during the year was exactly the same as in 1884-85, though there was a decrease of 27 in the number of cases. The subjoined table gives the chief details:—

Circles.	Cases before the Courts.	Prosecutions.				Cases compounded.	
		Convictions.		*Acquittals.*		Number of persons.	Amount received in compensation.
		Cases.	Persons.	Cases.	Persons.		
							Rs.
Central... ...	139	113	252	22	71	368	1,147
Oudh	60	53	93	7	14	104	Not given.
School	14	12	26	2	10	184	950
Total ...	213	178	371	31	95	656	...
Total for 1885-86 ...	240	197	373	41	93	...	3,750

These figures certainly do not indicate that the forest law in these provinces is worked with undue rigour. Otherwise they call for little remark. It may, however, be noticed that out of 87 persons tried by the divisional officer of the Ránikhet sub-division 49 were acquitted; whereas out of 119 tried by the Cantonment Magistrate in the same place, only two were acquitted. It is probable that only the more serious cases were sent on to the Cantonment Magistrate, but some explanation of these remarkable figures might well have been given in the report. Speaking generally, the great bulk of the cases related to petty thefts of forest produce and unlawful grazing. There is a considerable decrease in the number of cases compounded; but as there has been no increase in pro-

secutions, the falling off, despite the favour with which composition as a mode of punishment is usually and deservedly regarded, is not a matter of serious regret.

9. *Forest fires.*—The following statement compares the fire conservancy operations of the year with those of 1885 :—

Circles.		Area attempted to be protected.	Area actually protected.	Failures.	Percentage of failure.	Cost during the year.	Cost per acre.
		Acres.	Acres.	Acres.		Rs.	
Central ...	1884-85 ...	256,895	256,364	531	·20	15,966	11·9 pies.
	1885-86 ...	293,287	293,017	270	·10	18,224	13·2 ,,
Oudh ...	1884-85 ...	253,968	251,490	2,478	·9	11,805	8·9 ,,
	1885-86 ...	357,448	345,283	12,165	3·40	11,589	6·1 ,,
School ...	1884-85 ...	228,442	227,706	736	0·3	10,552	8·7 ,,
	1885-86 ...	326,875	313,274	13,601	4·1	8,993	5·2 ,,
Total ...	1884-85 ...	739,305	735,560	3,745	·5	38,123	9·9 pies.
	1885-86 ...	947,610	921,574	26,036	2·7	38,806	7·9 ,,

Three facts are brought out by this table—*first*, that in the Oudh and School Circles combined fire protection has been extended to about 200,000 additional acres hitherto unprotected; *secondly*, that in these Circles the percentage of failures has considerably increased; and *thirdly*, that in them the cost per acre has greatly diminished. In the School Circle there was comparatively little change. The increased area placed under protection in the Oudh and School Circles, accompanied by an actual decrease in expenditure, is very satisfactory. In both these Circles the fire-protected area now amounts to half the total area of the reserved forests. In the Central Circle it amounts to about one-fourth. In avoiding failures the Central Division was again very successful, but this must be partly attributed to a heavy winter and an unusually wet spring. In the Oudh and the School Circles considerable areas were burnt; but in the case only of the Saháranpur Division of the latter Circle does the damage seem to have been severe. Elsewhere merely grass and sparse jungle suffered. As regards the cost of protection per acre all comparisons must be made subject to the principle that the cost necessarily varies with situation and class of forest. Thus the hill forests of the Naini Tal Division cost only 2·63 pies per acre to protect, while the submontane jungles of the Bhábar cost 14·92 pies. Similarly, the deodár forests of Jaunsár in the School Circle cost 3·1 pies an acre, while the mixed forests of the Dún cost 6·3 pies. "The comparatively low cost of the hill forests," says Mr. Fisher, "is due to the nature of the deodár forests, which are not very inflammable, and to the late melting of the snow in March and the early rains in May, which prevent the necessity for keeping up a number of fire-guards as in the Siwálik forests." The same consideration must be kept in view in comparing the cost of fire conservancy in different provinces. The average cost in Lower Bengal is 4¼ pies an acre: in these provinces it has now been brought to something under 8 pies. Bearing in mind the moister climate of Bengal and the different character of its forests, the comparison does not seem very unfavourable to these provinces; but the attention of the Conservator of the Central Circle must again be drawn to the high cost of fire protection in his lower forests.

10. *Grazing.*- The amount realized in fees (Rs. 91,689) exceeded by Rs. 11,000 the receipts of 1884-85. No changes in the areas in which grazing is allowed are reported. It would seem, however, from the increase of the fire-protected area in the Oudh Circle that a considerable portion of the forests hitherto open to grazing has been closed. All protected blocks, however, in this Circle are not closed to grazing, and there is no reason to believe that the local demand for pasturage has anywhere been disregarded. The difficulty in fact in this Circle is to render nominal closure effectual in the absence of fencing. The Conservator remarks in general terms on the necessity for excluding sál forests from the grazing area, while utilizing every bit of legitimate grazing-ground. This point has been frequently urged by him in previous reports in the interest of forest reproduction, and his representations have so far been accepted by the Government that sanction has been given in the case of the more valuable forests in the Circle to the periodical closing of blocks to give seedlings time to spring up. The Government also is entirely of the Conservator's opinion, that the substitution of dried grass or hay for promiscuous grazing, so far as the people can be gradually taught to accommodate themselves to the change and where means of transport are available, would be an unmixed advantage for forest conservancy. But ancient usage is slow to reform itself, and meanwhile a too rigid insistance on the strictest precepts of scientific conservancy is apt to embitter the relations of the Forest Department with the people. The ill-success of the experimental sale of dried grass in Lucknow from the Bhira forests is disappointing.

11. *Natural and artificial reproduction.*—Natural reproduction appears to have been carefully watched in the various Circles, though there is little calling for special remark. The Conservator of the Oudh Circle as usual records some instructive observations on the growth of sál and sissu seedlings, which testify to his keen interest in this most important subject. It is satisfactory to learn that in the valuable but sadly misused forests of his Circle, reproduction is on the whole doing very well. In all Circles the advantage of protection from fire and from constant grazing becomes yearly more obvious, and without these auxiliaries the finest forests have little chance of successfully reproducing themselves. Artificial reproduction was carried on with attention and more or less success in all the Circles. In the Central Circle the plantation area remained unaltered. In the Oudh and School Circles it was enlarged by nearly 562 acres. The total charges amounted to Rs. 11,615 against Rs. 13,822 in 1884-85. The receipts were Rs. 1,878, derived from sale of fruit and trees from the Ránikhet nursery. The report on the operations of this useful garden reflects credit on the management. The large number of apple and other grafts distributed year by year among the villages of Kumaun has already considerably increased the fruit supply of these provinces, and will increase it still more largely in future. The Government notices with satisfaction the thorough order and well-stocked condition of the garden.

12. Creeper-cutting seems to have progressed in all Circles as far as funds and establishments permitted. In the Oudh Circle the Conserva-

tor notes that it is greatly required in the Bhira forests; and in the School Circle Mr. Fisher similarly specifies certain blocks of sál in the Saháranpur Division. The experiments to ascertain the growth of sál in thinned areas noticed last year were continued by Mr. Greig, and establish beyond dispute that a sál forest grows more rapidly when thinned and fenced. The Conservator's suggestion to try the same experiment in a *young* sál forest is approved, if means can be found for carrying it out.

13. *Communications and buildings.*—The expenditure incurred during the year on communications is shown below :—

Circles.	Roads and bridges.	Buildings.	Other works.	Total.
	Rs.	Rs.	Rs.	Rs.
Central	26,988	9,810	1,460	37,658
Oudh	11,348	13,960	1,181	26,984
School	5,710	9,020	875	15,605
Total ...	43,941	31,705	3,516	80,247
Total 1884-85 ...	60,581	35,767	5,644	1,01,993

Compared with the previous year there was a decrease of expenditure in all the Circles. In the Oudh Circle 23 miles of new roadway were completed, and in the Central Circle about 28 miles. The greater part of the funds were naturally absorbed in the repair of existing buildings and communications. The Oudh Conservator raises a question of considerable importance in advocating permanent tramways in place of cart-roads from the largest forest depôts to the rail or river. In his opinion the financial future of some of the forests in his Division turns on the question of cheap carriage from the forest to the nearest railway station. That cheap carriage is essential to the proper development of our forests throughout the province has long been apparent, and the lines of railway completed or in progress along the submontane districts will do much to solve the question. If they can be profitably supplemented by forest tramways, the Lieutenant-Governor will be ready to give any proposal in this respect his favourable attention; but as the matter does not fall within the purview of the year's administration, he will not here discuss it further.

14. *Yield and working.*—The two most important chapters in the reports deal respectively with (1) the yield and working, and (2) the financial results of the forests. The former is illustrated by forms Nos. 53 to 57, and the latter by forms Nos. 58 to 62, as prescribed in the Forest Manual. These tables have undergone some modifications in form, and it is difficult in some cases to compare the results of the year under report with those of 1884-85. The assistance which should be given in the Conservators' reports to the correct apprehension of the tabular statements is also this year as imperfect as it was last year. In reviewing the reports for 1884-85, His Honor the Lieutenant-Governor remarked on the apparent inability of the Circle officers to set forth clearly and concisely the general results of the year's operations, and to explain how these operations had

affected the financial position of the Department. The only report which shows improvement in this respect is that for the Central Circle. The Conservator of that Circle has made a real attempt to explain the complexities of forest working and finance, and to bring out the relation which the several tabular statements bear to each other. The two other reports give numerous details about divisional operations and mention certain incidents, but they neglect the primary duty of reconciling the year's statistics and intelligently explaining them. Conservators must understand that the capacity to state plainly the affairs of their Circles is an important test of administrative aptitudes; and that the general interests of the Government and of the Forest Department in particular must suffer if the annual record of its transactions is unintelligible.

15. Forms Nos. 53 to 57, as already said, deal with "the yield and working" of the forests. The information they respectively supply is as follows. The first form (No. 53) shows the number of "selection fellings," that is, the number of mature trees selected and felled by departmental agency in pursuance of a regular working plan. Its chief value lies in the indication it gives of the amount of first class timber felled departmentally during the year. It does not, however, exhibit the cubic contents of the trees felled by the Department, and neither it nor any other of the prescribed forms shows the number or cubic contents of such mature or "selected" trees as contractors or villagers were allowed to fell. Form No. 54 again shows in detail the quantity (*i.e.*, in cubic feet or in maunds), though not the values, of all timber, miscellaneous wood, and fuel exported from the forests during the year, whether by Government agency or otherwise. Form No. 55 gives similar information about minor forest produce. As form No. 54 is strictly confined to produce exported, it takes no account of unexported timber felled during the year, while it includes such of the previous year's stocks as were exported during the year. Being thus a return of "exports" and not of "yield," it requires to be supplemented by information as to opening and closing forest stocks before any comparison can be made on its basis between the working operations of different years. There is another defect in this return. It classifies exports under the heads of "selection fellings," "thinnings," and "clearances," and it also classifies them according as the exporter was Government, or a purchaser, or a rightholder. But as the classifications are independent of each other, it is impossible to say to what extent such class of timber was exported by each class of agency. The next form (No. 56) is, like form No. 53, restricted to departmental operations, supplying a sort of year's working account in quantities, though not in values, for the several departmental depôts. It shows the stocks in hand in the departmental depôts at the beginning of the year, the additions made to them during the year, the sale exports, and the closing stocks. It is, however, extremely cumbrous, and is also complicated by book entries of inter-depôt transfers; so that to be readily understood it requires to be abstracted as in appendix C to the Central Circle report.

16. In order to remedy these defects and show shortly and clearly the true yield in timber of the year, the agency by which each description of timber was felled, and the total amount and value of every kind of produce yielded by the forests, three supplemental tables were prescribed by G. O. No. 317, dated 27th March, 1883. They have been furnished by the School and Central Circles; but notwithstanding express reference to them in the order of the 22nd March last on the reports of 1885, the Oudh Conservator has again omitted to prepare them. It is now too late to require their submission, and the absence of these supplementary returns renders it impossible to set out that clear and succinct statement for the province of the real yield of the several forests and the method of working them which it was the object of Government to procure.

17. *Total exports of forest produce.*—The best general view of the productiveness of the forests during the year is given by forms Nos. 54 and 55, from which the following table is abstracted:—

	In cubic feet.							
		Class of exports.			*By whom exported.*			
	Total exports.	Selection fellings.	Clearances.	Thinnings.	Government agency.	Purchasers.	Free grantees.	Right-holders.
Central Circle.								
Timber ...	838,211	398,438	258,198	31,575	81,737	507,110	11,495	87,869
Firewood ...	1,133,079	189,926	933,761	10,390	200,832	806,845	13,558	103,892
Minor produce	Rs. 1,32,962	...	...	...	Rs. 4,867	Rs. 1,27,976	Rs. 81	Rs. 38
Oudh Circle.								
Timber ...	8,909,750	682,466	3,127,426	98,878	1,117,127	378,008	2,394,617	...
Firewood ...	2,254,230	58,760	1,548,663	646,807	474,110	1,294,712	485,408	20,000
Minor produce	Rs. 1,05,209	...	...	...	Rs. 2,796	Rs. 90,685	Rs. 11,788	...
School Circle.								
Timber ...	623,019	438,339	58,790	125,890	151,896	362,198	108,925	...
Firewood ...	738,211	107,220	390,647	240,344	252,404	473,607	...	12,000
Minor produce	Rs. 58,978	...	...	...	Rs. 20	Rs. 58,531	Rs. 15	Rs. 413
Gross Total—								
Timber ...	5,220,980	1,519,243	3,444,424	256,343	1,350,760	1,247,316	2,515,037	87,869
Firewood	4,125,520	355,906	2,872,071	899,541	936,346	2,575,164	498,966	135,892
Minor produce	Rs. 2,97,149	...	...	...	Rs. 7,683	Rs. 2,77,142	Rs. 11,884	Rs. 453

Thus the total export of timber and firewood was 9⅓ million cubic feet, of which over 3¾ millions were removed by purchasers, 3¼ millions by free-grantees and right-holders, and 2½ millions by Government agency. Distributing the produce over the total forest area, as returned at the beginning of the year, the average outturn of wood per square mile was 2,750 cubic feet. The Oudh Circle was the most productive, yielding over 5,000 cubic feet the square mile. The Central Circle yielded only 1,200. The figures for the reserved forests of Lower Bengal may be compared with these. In 1883-84 the Bengal average was 4,167 cubic feet, in 1884-85, 3,382. But though the outturn in Bengal is much larger, both the gross and net revenue are much less. In the North-Western Provinces and Oudh the gross receipts in 1885-86 were Rs. 426 the square mile, and the net receipts Rs. 142. The corresponding figures for the reserved forests of Bengal in 1884-85 were Rs. 90 and Rs. 16.

18. Owing to changes in the form of the returns it is impossible without inordinate labour to compare the figures in the above table with those of previous years, though for the Central Circle the Conservator has supplied the requisite information (paragraph 72). Again

the return does not give the value of the exports, save in the case of "minor products," and without professional information it is difficult, if not impossible, to ascertain this value accurately from the revenue returns (form No. 58). Generally, it may be inferred from the information scattered through the reports, that the exports from the Central Circle were somewhat less than in 1884-85; those from the School Circle considerably less in quantity, though not in value; and those from the Oudh Circle considerably more. The falling off in the Central Circle may be classed as nominal, as the trade really was brisk, though unseasonable rains in February and March delayed export beyond the conclusion of the financial year. The increase in the Oudh Circle was mainly due to an active demand for railway sleepers. The exports from this Circle both of timber and fuel continue to greatly exceed those of the other Circles. Three times as much timber was exported from it as from the School and Central Circles combined. The sál forests of Kheri and Gorakhpur now form the chief source of supply for railway sleepers, and the industry will greatly increase when the present cartage difficulties, of which Captain Wood complains, are lessened by the extension of the provincial railway system into the northern districts. The line under construction from Sitapur to Seramau and thence possibly to Pilibhít should immensely improve the commercial value of these forests, and make their grass and fuel more useful to the large towns of Oudh. The total exports of firewood from the three Circles amounted to over four million cubic feet. "Minor products" include a very long list of commodities, from wax and honey to hides and grazing. Of the total Rs. 2,97,149 under this head, Rs. 91,689 represented grazing dues. The last four columns of the table show the comparative extent of departmental and private agency in the exploitation of forest produce. As regards timber the Oudh Circle is the only one in which departmental exports exceed those of private purchasers. As regards fuel in all the Circles the bulk of the export is in private hands. The large departmental exports of timber from the Oudh Circle consist almost exclusively of sleepers. In this Circle private trade in sleepers seems virtually non-existent. In the Central Circle it is brisk, and the Conservator would be glad to see it take the place of the departmental works, holding that the latter are both less remunerative to Government than are sales of the raw material to contractors, and also divert the attention of Forest Officers from the urgent duties of forest conservancy. On the other hand, the Conservator of the School Circle is opposed on financial grounds to private trade in sleepers (paragraph 59), and would retain the monopoly of it as far as possible for the Department. It is not a matter for dogmatic and inflexible rule. The propriety of a departmental system of working the forests depends on so many circumstances, that the Forest Officers must themselves decide the extent to which it should be carried. If the demand is for timber of various kinds and sizes, contractors are generally best informed as to the varying requirements of the markets; and in the Central Circle, which has large markets for wood of all kinds, and is served by numerous merchants of standing in the trade, the agency of contractors has been

yearly extended with manifold and increasing advantage. The Oudh and School Circles have had a speciality in the supply of sleepers, and in the latter the markets are distant from the forests and the timber merchants few. So long as the main demand is limited to timber of a specific kind in very large quantities, it is probably in the financial interests of the forests to continue the departmental working, which has yielded the great increase of revenue shown by the statistics of the Circles; but this demand will probably now diminish, and both Conservators should avail themselves of suitable opportunities of encouraging the entry of private traders on the plan which the experience of the Central Circle more and more commends.

19. The above figures relate to exports. The "yield," that is, the timber actually cut within the year, is shown for the Central Circle in appendix A, and for the School Circle in appendix B. The information for the Oudh Circle is not given. The totals for these two Circles are—

	Selection fellings.		*Thinnings*		*Clearances.*		*Total.*	
	Number of trees.	Cubic feet.	Number of trees.	Cubic feet.	Number of trees.	Cubic feet.	Number of trees.	Cubic feet.
Central Circle, 1885-86,	32,052	530,809	52,810	77,851	1,442	14,957	86,304	623,617
Ditto, 1884-85,	29,238	458,820	9,210	11,288	675	2,487	39,123	472,595
School Circle, 1885-86,	9,174	554,788	42,208	122,937	...	...	51,382	677,725
Ditto, 1884-85,	14,099	1,408,771	21,112	147,503	1,735	9,000	36,946	1,565,274

These figures show all timber felled within the year whether by villagers, contractors, or departmentally. In the Central Circle an addition of 213,696 cubic feet has to be made for dry fallen trees (page 34), and the yield of timber, after certain deductions, is brought up to 761,192 cubic feet (page 22), thus exceeding by 73,000 feet the actual export. The explanation of these figures given by the Conservator is quite clear. The absence of similar explanations in the other Circle reports makes it impossible to deal with any confidence with their figures. Taking the total yield of each Circle, as given above, the falling off in the School Circle is noticeable. Though more trees were felled, the yield was less by nearly 900,000 cubic feet than in 1884-85. The selection fellings yielded only 60 cubic feet per tree against 100 in 1884-85, and the thinnings not 3 cubic feet in place of 7. The Conservator notices the fact that smaller trees were felled; but he does not say whether it was due to the exhaustion of the forests, or merely to a temporary change in the working system. The increase in the number of trees thinned out in the Central Circle is remarkable. The Conservator reports that most of them were half-dried standing "poles" from the Garhwál Division.

20. To these figures—to obtain the total yield of the forests in produce of every description—it is necessary to add similar figures for firewood and charcoal, bamboos, minor produce, and grazing dues. The total yield, as thus described, is given for the Central and School Circles in another appendix. Unfortunately, the Conservator of the latter

Circle has neglected to explain why the yield of timber shown in his appendix B does not correspond with that shown in his supplementary appendix giving the total yield. It is consequently useless to abstract the figures.

21. *Departmental operations.*—Further information on this head is given by form No. 53, which shows the number of mature trees felled (though not necessarily exported) during the year by departmental agency. The figures for the three Circles are—

Circles.	1885-86.		1884-85.	
	Trees.	Cubic feet.	Trees.	Cubic feet.
Central	7,494	152,870	3,437	72,868
Oudh	38,154	...	10,543	501,549
School	4,788	224,580	2,293	229,358
Total	50,436	...	16,273	...

The yield in cubic feet has been taken from appendix A to the Central Circle report and appendix B to the School Circle. The increase in the number of trees felled was not accompanied by a corresponding increase in yield. A large number of crooked, under-sized trees were included in the "selection" fellings of all three Circles. To complete the departmental yield of timber, the quantity obtained by departmental "thinnings" and "clearances" has to be added. This is given in the appendix referred to for the Central and School Circles. The figures are—Central Circle, 6,889 trees (=23,756 cubic feet) against 691 trees (=2,902 cubic feet) in 1884-85: School Circle, 22,522 trees (=48,148 cubic feet) against 11,732 trees (=52,677 cubic feet) in 1884-85. Adding these figures to the "selection" fellings, the total number of trees felled by departmental agency in the Central Circle was 14,383 (=176,132 cubic feet) against 4,128 trees (=75,765 cubic feet) in 1884-85; and in the School Circle 27,310 (=272,717 cubic feet) against 14,025 trees (=282,035 cubic feet) in 1884-85. The increase of outturn in the Central Circle was occasioned by special fellings for sleepers in the Kumaun and Garhwál Divisions, and by extensive thinnings in the growing jungles of Bánda, Jhánsi, and Lalitpur. In the School Circle the increase was almost entirely due to thinnings in Dehra Dún and Saháranpur; and though twice the number of trees was cut, the quantity of wood put on stock was not materially changed. As similar figures are not available for the Oudh Circle, it is necessary to resort to form No. 56, which shows, *inter alia*, the quantity of timber brought into the departmental depôts during the year. According to it, 1,664,210 cubic feet of timber was received into the Oudh Circle depôts during 1885-86. Taking this, in the absence of more precise information, as the yield of all trees felled departmentally in the Circle, the officers of the Oudh Circle had three times as much to do in the felling of timber and its preparation for the market as those of the other two Circles combined.

22. To these figures for the three Circles, in order to get a complete view of the departmental yield of the year, it is necessary to add the amount of firewood, fallen timber, bamboos, &c., collected by the

department. As form No. 56 shows all produce of every kind received departmentally, it might be expected to give this information. But it is impossible to reconcile the receipts of timber shown in it with those quoted from appendix A in the previous paragraph. There is therefore little use in accepting its figures for other produce.

23. The value of timber in stock in the depôts at the beginning and end of the year is shown in the following abstract from form No. 57:—

Circles.	At beginning.		At end.	
	Cubic feet.	Value.	Cubic feet.	Value.
		Rs.		Rs.
Central	66,246	35,629	30,581	33,770
Oudh	1,020,211	6,00 194	1,705,908	6,90,498
School	...	88,691	...	66,922

The increase in the closing stocks in the Oudh Circle is due to the non-delivery within the year of sleepers prepared for export. The cubic contents shown in this form should agree with the opening and closing stocks shown in form No. 56, or else the difference should be explained. In the Central Circle alone is such agreement found. No explanation of the difference is given in the reports for the other Circles, and must now be given.

24. *Financial results.*—The financial results of the year's operations are shown in the appended tables:—

Receipts, expenditure, and surplus.

Circles.	Receipts.					Expenditure.					Surplus.				
	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Central ...	5,04,027	4,14,003	5,34,280	4,92,407	4,43,133	3,04,693	2,86,648	2,65,692	2,61,912	2,64,479	1,99,144	1,27,355	2,68,588	2,30,585	1,78,654
Oudh ...	3,11,145	3,84,480	3,05,538	7,77,021	6,81,712	2,24,508	2,88,707	4,89,314	5,50,758	5,03,197	86,639	95,723	3,16,324	2,26,263	1,78,515
School ...	2,50,911	2,14,970	2,71,565	3,02,801	3,36,649	3,80,613	2,63,089	2,86,778	2,07,482	2,05,842	—1,35,902	—48,699	—15,213	95,369	1,29,807
Total ...	10,66,093	10,13,403	16,11,383	15,72,319	14,61,494	9,10,212	8,39,024	10,41,884	10,20,102	9,74,519	1,49,881	1,74,379	5,69,499	5,52,217	4,86,976

Receipts and expenditure under the headings of departmental timber operations, other revenue, and formation, &c., of forests.

Circles.		Departmental timber operations.			Other revenue.			Formation, protection, and improvement.	Net surplus.
		Receipts.	Charges.	Surplus.	Receipts.	Charges.	Surplus.	Charges.	
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Central ...	1884-85 ...	1,18,216	69,773	48,443	3,74,281	1,07,028	2,67,253	85,111	2,30,585
	1885-86 ...	1,22,256	86,700	35,556	3,20,877	90,147	2,30,730	87,632	1,78,654
Oudh ...	1884-85 ...	6,13,071	2,76,647	2,36,424	1,63,950	77,127	86,823	96,984	2,26,263
	1885-86 ...	* 5,11,660	3,30,036	1,81,624	1,70,053	80,170	89,883	92,991	1,78,516
School ...	1884-85 ...	1,50,759	79,235	71,524	1,52,042	34,137	1,17,905	94,060	95,369
	1885-86 ...	* 1,80,643	78,777	1,01,866	1,56,006	35,675	1,20,331	92,391	1,29,806
Total ...	1884-85 ...	8,82,046	5,25,655	3,56,391	6,90,273	2,18,292	4,71,981	2,76,155	5,52,217
	1885-86 ...	8,14,559	4,95,513	3,19,046	6,46,936	2,05,992	4,40,944	2,73,014	4,86,976

* There is a slight difference in these figures compared with those given in form No. 58 of the annual report, which should have been explained.

Details of receipts under principal heads.

Circles.	Timber and other produce removed from forests by Government agency.		Timber and other produce removed from the forest by consumers or purchasers.		Confiscated, drift, and waif wood.		Forests not managed by Government.		Miscellaneous.		Total.
	1884-85.	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Central ...	1,18,216	1,22,256	3,69,051	3,12,269	567	1,458	148	...	4,495	7,150	4,92,497 4,43,133
Oudh ...	6,12,654	5,11,216	1,52,728	1,58,306	2,234	3,994	...	...	3,410	3,196	7,77,021 6,81,712
School ...	1,50,759	1,80,917	1,32,971	1,33,075	7,140	11,128	3,784	9,517	3,147	3,012	3,96,804 3,37,649
Total ...	8,81,629	8,14,389	6,54,745	6,03,650	10,961	16,580	3,932	9,517	16,052	17,358	16,72,319 14,61,496

Expenditure on conservancy and works.

Circles.		Timber and other produce removed by Government agency.	Timber and other produce removed by consumers and purchasers.	Confiscated, drift, and waif wood.	Rent of leased forests.	Live-stock, stores, tools and plant.	Communications and buildings.	Demarcation, improvement, and extension of forests.	Miscellaneous.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Central ...	1884-85 ...	36,421	21,619	...	4,591	9,257	40,312	25,910	657	1,38,767
	1885-86 ...	32,044	21,867	1	952	9,096	37,658	24,609	2,675	1,48,902
Oudh ...	1884-85 ...	3,49,895	10,856	116	...	7,202	40,895	30,823	4,447	4,44,195
	1885-86 ...	3,23,006	11,756	464	...	7,958	26,985	25,045	2,329	3,98,533
School ...	1884-85 ...	51,704	9,501	4,128	8,501	4,729	20,787	22,181	9,147	1,30,768
	1885-86 ...	59,859	10,228	4,867	14,501	2,866	15,605	17,730	5,359	1,30,405
Total ...	1884-85 ...	4,36,020	42,006	4,244	13,092	21,188	1,01,994	78,914	14,251	7,13,730
	1885-86 ...	4,55,899	43,851	4,332	15,453	19,960	80,248	67,434	10,263	6,77,840

Expenditure on establishments.

Circles.	Salaries.		Travelling allowances.		Contingencies.		Total.	
	1884-85.	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.	1884-85.	1885-86.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Central	1,05,520	99,383	12,417	11,422	5,209	4,771	1,23,146	1,15,576
Oudh	85,982	85,930	10,066	12,626	4,506	4,908	1,00,554	1,04,464
School	63,651	62,661	7,418	7,510	5,595	6,266	76,664	76,437
Total ...	2,55,153	2,47,974	35,901	32,758	15,310	15,945	3,06,364	2,96,477

25. The gross receipts for the three Circles were Rs. 14,61,496 against Rs. 15,72,319 in 1884-85, and the expenditure Rs. 9,74,518 against Rs. 10,20,102. The net surplus was Rs. 4,86,976, or Rs. 65,241 less than in 1884-85. The diminution in receipts was confined to the Central and Oudh Circles, as in the School Circle both the gross receipts and the net surplus improved. It is satisfactory to find that in both the Central and Oudh Circles the decrease was really nominal, being due to causes which prevented the whole proceeds of the year's operations from being credited to the Department within the year.

26. Taking first the Central Circle, the receipts were Rs. 4,48,133 against Rs. 4,92,497 in 1884-85; the charges Rs. 2,64,479 against Rs. 2,61,912; and the surplus Rs. 1,78,654 against Rs. 2,30,585: of the gross receipts, departmental operations yielded Rs. 1,22,256 against Rs. 1,18,216 in 1884-85. The slight increase here shown was due to the sleeper works in progress. The charges under this head aggregate Rs. 86,700 against Rs 69,773: departmental operations were therefore less profitable than in the previous year, and this was in truth due, as has since appeared, to an unnecessary fastidiousness in the selection and workmanship of the sleepers the Conservator was instructed to supply. Mr. Bagshawe mentions that the expenditure under this head in 1884-85 was kept low by the sale of old stocks. Deducting the receipts from departmental operations, the revenue from other sources amounted to Rs. 3,20,877 against Rs. 3,74,281 in 1884-85. The chief items were (*a*) from timber removed by consumers or purchasers, Rs. 1,76,066 against Rs. 2,43,874 in 1884-85; (*b*) bamboos, Rs. 72,052 against Rs. 63,871; (*c*) grazing and fodder grass, Rs. 27,721 against Rs. 20,709; (*d*) other minor produce, Rs. 26,744 against Rs. 28,264. The falling off is virtually restricted to (*a*), and is attributed to the temporary check put on the export traffic in timber during February and March by abnormal rain in those months. Under the system in force in Kumaun and Garhwál the revenue from timber cut by merchants in the forests is solely derived from royalties levied at the time of export. If, as in the present case, timber after having been prepared for export has to lie till April before the roads become passable, the royalty due on it falls into the receipts of the next year. The Conservator shows that the receipts for April to June, 1886, were Rs. 66,374 in excess of the receipts for these months in 1884-85. This taken in conjunction with the fact that the demand for timber showed no falling off, seems to show that the decrease in the receipts of the Circle, and in its surplus, is nominal. The small increase (Rs 2,569) in the total Circle expenditure seems to be entirely due to the cost of sleeper operations. Under other heads the expenditure decreased.

27. The receipts of the Oudh Circle were Rs. 6,81,712 against Rs. 7,77,021 in 1884-85; the charges Rs. 5,03,197 against Rs. 5,50,758; and the surplus Rs. 1,78,515 against Rs 2,26,263. Of the gross receipts Rs. 5,11,660 was derived from departmental operations, against Rs. 6,13,071 in 1884-85. As "other revenue" amounted to Rs. 1,70,053 against Rs. 1,63,950, the decrease is seen to have occurred under departmental operations. The explanation is that the year opened with very small outstanding debts due to the Department by the Railway Companies on account of sleepers supplied in the previous year, but closed with outstandings of over Rs 1,00,000. Of these outstandings Rs. 59,059 had actually been transferred to the Department by the State Railways in March, though the Comptroller-General has failed to credit it. Why this item is not shown in form No. 60 is not clear. Accepting the explanation as correct, the actual surplus exceeds that of 1884-85, and the departmental operations were very successful. The expenditure chargeable to them was Rs. 3,30,306 against Rs. 3,76,647 in 1884-85, the decrease being attributed to the interruption of cartage operations in

February and March, owing to heavy rains. The Conservator in paragraph 68 of his report puts the profits of the year (including "assets") under all heads of revenue at Rs 2,96,437 Stocks in hand show an increase of Rs 90,000, being sleepers which would have been delivered within the year had the weather permitted. The increase of stocks during the last few years is very noticeable. They now aggregate seven lakhs in value against 3½ lakhs in March, 1882. As, however, they mostly consist of sleepers or of logs for sleepers, their value may be presumed to be covered by existing contracts. The entry of Rs. 97,104, on account of "liabilities" in paragraph 63 should have been explained. Whether it represents or not payments in advance to the department for undelivered sleepers, it may be regarded as a rough set-off against the increased stock in hand at the end of the year. Again, more explanation should have been given regarding the sum of Rs. 1,57,043 said to be due by contractors and others on account of advances. It is difficult to make out from the accounts whether these advances appear in the expenditure of the year or not. According to form No 61, Rs. 73,961 was outstanding at the beginning of the year; Rs. 6,58,383 was added to this as "payments on account" during the year; and Rs. 5,75,351 recovered in cash or in work: the year closed, as already said, with a large outstanding balance of Rs 1,57,042. If these advances are excluded from the expenditure, and if, as the Conservator fears, a fifth or a sixth of the amount is irrecoverable, the estimated surplus becomes considerably reduced. The Lieutenant-Governor, while admitting that advances are a necessity in dealing with transport contractors, expects the Forest Officers to exercise the strictest vigilance both in granting and in recovering them. The subject should receive fuller notice in the report for 1886-87.

28. The receipts of the School Circle were Rs 3,36,649 against Rs. 3,02,801 in 1884-85; the expenditure Rs. 2,06,842 against Rs. 2,07,432, and the surplus Rs. 1,29,807 against Rs. 95,369. The steady improvement in the financial position of the Circle is gratifying Three years ago the balance-sheet showed a deficit larger than the present surplus. Of the total receipts Rs. 1,80,643 was realized from departmental operations against Rs. 1,50,759 in 1884-85. The expenditure on the same was Rs. 78,777 against Rs. 79,235. Eight-ninths of the departmental receipts belonged to the Jaunsár Division, being due partly to sleeper operations and partly to sales of timber and fuel in Chakráta. In this Circle, the outstandings on account of advances are comparatively small; still they have increased during the year from Rs. 5,885 to Rs 17,702, and the Conservator's attention will be drawn to the remarks recorded with regard to the Oudh Circle.

29. *General.*—Judged by its financial results the year, though not the best the Department has seen, was on the whole distinctly favourable. Judged from the standpoint of administration and provident forest conservancy, it affords substantial ground for much satisfaction Good progress has been made in protecting the forests from fire and misusage, and in otherwise improving the conditions requisite for systematic natural reproduction. If the measures taken for such ends still fail

behind the full requirements of scientific forestry, it has to be borne in mind that the conception of husbanding the resources of our forests is still novel to the country, and that wherever the population that is settled upon the margin of cultivation, and the classes that live by the open woodlands, have been from time immemorial habituated to a free use of the forest produce, any restrictions imposed abruptly on customary profits and privileges will be sharply felt, and may be widely unpopular. The precise point at which this consideration should give way to the higher necessity of providing for the future and for the wants of the people at large is always disputable; nor is it surprising if on particular occasions the prepossessions of the Forest Department do not always coincide with the views and responsibilities which must weigh with the Government. Nevertheless, in this respect, as in others, the Lieutenant-Governor acknowledges the disinterested zeal with which the Conservators in these provinces endeavour to advance the true interests, as they understand them, of the rural population in the forests, and the great knowledge they have acquired of the agricultural conditions of the country It is chiefly owing to them that the restrictions imposed on the population adjoining the forests are enforced with so little friction and such rare resort to legal penalties. In conclusion Sir Alfred Lyall desires to express his thorough appreciation of the ability and unremitting labour with which during the year the heads of the department have discharged their heavy, important, and rapidly-increasing duties.

J. WOODBURN,

Chief Secy. to Govt., N.-W. P. and Oudh.

No. $\frac{619F.}{569-6}$,

ORDER.—Ordered that a copy of the above Resolution (with copy of the Report) be forwarded to the Conservators of Forests, Central, Oudh, and School Circles, for information and guidance.

No. $\frac{620F.}{569-6}$.

Ordered also that copy (with copy of Report) be forwarded to the Commissioners of the Meerut, Benares, Jhánsi, Rohilkhand, Allahabad, Kumaun, Sitapur, and Fyzabad Divisions, for information.

No. $\frac{621F.}{569-7}$.

Ordered also that copy (with copy of Report) be forwarded to the Comptroller-General, Calcutta, for information.

No. $\frac{622F.}{569-8}$.

Ordered also that copy (with copy of Report) be forwarded to the Inspector-General of Forests, for information.

By order, &c.,

J. WOODBURN,

Chief Secy. to Govt., N.-W. P. and Oudh.

BY ORDER OF THE LIEUTENANT GOVERNOR OF BENGAL * FORWARDED *

No. 389-F., dated Simla, the 16th May 1887.

From—Sir E. C. Buck, Secretary to the Government of India, Revenue and Agricultural Department,

To—The Secretary to the Government of the North-Western Provinces and Oudh Revenue (Forests) Department.

I am directed to acknowledge the receipt of your letter No. 625-569-9F., dated the 20th December last, submitting the Annual Progress Report of Forest Administration in the North-Western Provinces and Oudh for 1885-86, with His Honor the Lieutenant-Governor's Resolution thereon.

2. The changes that have taken place during the year under review in the areas of Government forest property are exhibited as follows :—

Class of Forests.	Circle.	At the commencement of the year.	Added.	Excluded.	At the close of the year.	Total of class of Forests for the Province.	Proportion of Forests to whole area of Province (106,080 square miles).
		Sq. ms.	Sq. ms.	Sq. ms.	Sq. ms.	Sq. ms.	Per cent.
Reserved ...	Central ...	1,471	...	...	1,471	3,468	3·27
	Oudh ...	1,194	1·54	1·54	1,194		
	School ...	764	39	...	803		
Protected ...	Central ...	99	...	26	73	73	·07
	Oudh ...	17	...	17	...		
	School ...	...	...	...	...		
District or Unclassed.	Central ...	118	26	...	144	144	·13
	Oudh ...	...	...	...	...		
	School ...	...	...	...	...		
	Total ...	3,663	66·54	44·54	3,685	3,685	3·47

The changes which have actually taken place during the year under review seem to be, first, a rectification of the boundaries of the Bahraich Forest Reserves in Oudh, necessitating the exchange of a piece of the Reserved Forests against private forest land of the same extent; next, the demarcation and subsequent transfer to the area of Reserved Forests of 39 square miles of the forest area leased from the Raja of Tehri in the School Circle; and, finally, the transfer of the Airideo Protected Forest in the Central Circle, comprising 26 square miles, to Unclassed Forests. In addition to these changes, the rectification of a mistake, made in former returns, necessitated the exclusion of 17 square miles from the area of Protected Forests in Oudh.

3. Sufficient care has not been bestowed upon the preparation of Form No. 49, which has been incorrectly prepared as regards the Central Circle, and may be misleading in the case of all three Circles.

It has already been pointed out by His Honor the Lieutenant-Governor that the forests taken over from the defunct Kumaun Iron Works Company have been wrongly entered as Reserves added during the year, and, in addition, Form No. 49 for the Central Circle shows that large areas were added to and

excluded from reserves—changes which have in reality never taken place. These reserves were only transferred from one Division to another. The returns in Form No. 49 are everywhere misleading, in so far as the heading does not correspond with the information given in the body of the Form. Thus, in the Central Circle the heading is "Area of Reserved Forests," and the return treats of Reserved, Protected, and Unclassed Forests, and—what is still more misleading—no indication is given, by means of sub-headings, to show what figures refer to the different classes. As regards the returns of the Oudh Circle, the heading is not in accordance with the Forest Code, though it is clearly shown what figures deal with Protected Forests. The heading of Form No. 49 for the School Circle is in accordance with the Code, but no sub-headings show whether the figures in the return deal with one or all three classes of forests enumerated in the heading of the return.

Some of these shortcomings have already been noticed by His Honor the Lieutenant-Governor, and His Excellency in Council is, therefore, confident that, in future, greater care will be bestowed upon the compilation of Form No. 49, which is a most important one.

4. His Excellency in Council is pleased to notice that His Honor the Lieutenant-Governor takes great interest in the permanent demarcation of the State forest property, and this fact has doubtless ensured the satisfactory progress which is reported to have taken place in regard to boundary work. It is essential that boundary work should be executed in as thorough a manner as possible, and that results should be permanently secured by the erection and maintenance of lasting boundary-marks; and in this connection it is observed that the masonry pillars put up in the Ganges Division do not seem to have given entire satisfaction.

5. Considerable delay occurred in the submission of Working-Plans, the data for some of which had been collected for years past. His Honor the Lieutenant-Governor ascribes this delay entirely to the unnecessary length and prolixity of discussion in connection with the Plans, and recommends that they should in future be confined to a short business-like statement of the present condition of each forest, and the proper system of working, maintaining, and improving the latter. His Excellency in Council entirely agrees with Sir Alfred Lyall that the necessity of an early completion of more or less general Plans for the entire forest area is of greater importance than the compilation of very detailed and elaborate Plans at a slow rate of progress, and that it is preferable that the bulk of the forests should be worked on some practical but general Plan than that a very detailed scheme should exist for a limited area and none for the rest. Great (and in one instance perhaps unnecessary) elaboration is not, however, the only cause of the delay complained of by the Local Government. It is also due to the fact that there was no Provincial Working-Plans Division or agency since Mr. Fernandez's transfer to the charge of Imperial Working-Plans in 1882—a charge which soon became a Forest School appointment. It is understood that the Local Government, for some time after, utilized Mr. Fernandez's services; and that even when that Officer was made Deputy Director of the School, and when practically the whole of his time was occupied with duties connected with the School and the writing of a Sylvicultural Manual, he was not relieved of the Working-Plans which were in course of preparation. There is much in favour of the argument that Working-Plans should be made by the Officer who collected the material, but this point is not essential. The consequence of the arrangement described was that no Working-Plans were submitted during the year; but it has since been possible to relieve Mr. Fernandez temporarily of his duties in connection with the Forest School, and this has enabled him to complete several of the Plans he had in hand. His Excellency in Council has been informed by the Inspector-General of Forests that the working scheme for the Dehra Dún forests is now the only Plan of those for which the material was collected under the old arrangement which has not been submitted, and with regard to which no practical progress has been made during the last two years. The advisability of arranging for the completion of this Plan by another agency is a matter of serious consideration.

Since these reasons for the delay were brought to the notice of the Local Government special Officers have been placed in charge of the different Working-Plans required for the Province, and the rapid progress which is now being made in this direction will soon place the North-Western Provinces in the foremost rank as regards a systematically-arranged working of the forest property. Where no Working-Plans exist as yet, the forest management is regulated throughout by annual Programmes of Operations. His Excellency in Council is pleased to observe that the era of unsystematic working and chance management has for ever passed by as regards the forests under the management of the Forest Department in the North-Western Provinces and Oudh.

6. The list of breaches of the forest law, prosecuted and compounded, shows that 211 cases were brought to the notice of the Courts, against 230 cases in the previous year, and that the number of convictions increased from 82 to 85 per cent. The cases compounded are also apparently fewer, though the information with regard to this point is somewhat incomplete. The figures in the Report under review certainly show that the law is worked with great consideration towards the people. This is satisfactory, but the efficacy of the general protection of the forest areas cannot be solely gauged by a list of breaches of the forest rules and the results of prosecutions. Whether the protection really afforded to the forests was generally effective or otherwise has nowhere been stated, except in the Report of the School Circle.

7. The results of fire-protection, as shown in the following table, have been very good:—

Circle	Area in square miles.			Proportion of Failures to area attempted.	Cost		Proportion of area under Fire-protection to total area of Reserves
	Attempted.	Failures.	Protected.		Per square mile protected	Per acre protected.	
				Per cent.	Rs.	Pies.	Per cent.
Central .. .	411		411	...	44	13	26
Oudh	559	19	540	3	21	6	47
School	*511	21	*490	4	18	5	64
Total in 1885-86 ...	1,481	40	1,441	3	27	8	41
Total in 1884-85 .	1,156	6	1,150	1	33	10	34
Increase or decrease in 1885-86 .	+ 325	+ 34	+ 291	+ 2	— 6	— 2	+ 7

* Includes 72 square miles of forests leased from Native States

The area actually protected has been increased by 291 square miles, and, though the percentage of failures to the area attempted has increased by 2 per cent., the cost has been materially reduced. The reduction in cost has taken place solely in the Oudh and the School Circles, which exhibit a decrease in the cost per square mile of Rs. 9 and Rs. 11, respectively. His Excellency in Council congratulates the Officers of the Circles on these results, and trusts that the efficiency and low cost of protection will be maintained. In the Central Circle entire immunity from fires has been secured, which is a matter of great importance; but the cost has been more than double that of either of the other Circles, and the area under fire-protection amounts as yet only to 26 per cent. of the area of Reserved Forests, which seems disproportionately small if the importance of the forests be taken into consideration. His Excellency in Council is pleased to observe that the attention of the Conservator of the Central

Circle has been drawn to this difference in cost, and trusts that this second point may also be noticed. It may be that the higher cost is due to reasons of administration and management, which can be altered and improved; but it may also, to some extent, depend on local circumstances which can be explained, but not removed. The Governor-General in Council would regret to see the safety of the forests, which has now been secured for some time past, jeopardized in order to attempt a sudden reduction in the cost of protection.

The advantages of fire-protection are no longer doubted, and are confirmed by an analysis of soils obtained from the Kheri Forests, from annually-burnt areas and from forests successfully protected for seven years. These analyses were recently made at the Dehra Dún Forest School, and show a rapid improvement in the fertility of the soils in the fire-protected forests. The area actually protected in the North-Western Provinces and Oudh during the year under review amounted to 39 per cent. of the whole forest area which is the property of Government. This is no doubt a satisfactory result; but the great interest with regard to this question, which is evinced in the Resolution now before the Government of India, encourages His Excellency in Council to hope that the protected area will be steadily increased year by year till fires are kept out of all *bonâ-fide* forest lands, and that serious experiments will be made to protect some of the extensive areas under *Acacia* trees (Khair) and grass, which exist more especially in Oudh. The burning of these has hitherto been considered a necessity, which has been accepted on no better evidence than old custom.

His Excellency in Council learns with regret that the southern slopes of the Himalayas, towards the Dehra Dún, are still annually burnt over, and, while convinced that no physical necessity exists for this state of things, apprehends that much harm is caused thereby. His Excellency in Council is aware that the area is, under existing law, almost entirely outside the present scope of Government interference, and only desires that the question may receive such attention as circumstances permit.

8. His Excellency in Council has read with interest the remarks made in the Lieutenant-Governor's Resolution, as well as in the Report submitted by the Oudh Conservator, on the subject of grazing. It is doubtless up-hill work to persuade a conservative peasantry to abandon ancient customs, more especially so when the abandonment of such usages, though accompanied by undeniable advantages, necessitates additional trouble and labour. Nevertheless, the desirability of a reform which promises so well as does the more conservative treatment of grazing-grounds and grass should not be lost sight of. His Excellency in Council is glad to see that His Honor the Lieutenant-Governor has sanctioned the closing of blocks in all the more valuable sâl forests in the Oudh Circle against grazing. There seems to be no hardship in this to the surrounding population, for the argument can hardly be admitted that a pressure exists on account of limited grazing-grounds, or that food for cattle is scarce in localities where the annual burning of the surplus supply of uneaten grass, resulting in fires spreading over tracts of large extent, is considered necessary.

9. His Excellency in Council notices with satisfaction the remarks made in paragraph 11 of His Honor the Lieutenant-Governor's Resolution, to the effect that the exclusion of fire and the regulation of grazing have had the desired and expected effect on the progress of natural reproduction in the forests. The Conservators in their Annual Reports treat this important question somewhat too briefly. His Excellency in Council recognises the difficulty and even impossibility of describing in an Annual Report the general progress and changes which may have taken place, in this respect, within one year, which, after all, represents a very short period in the life of a forest; but there seems to be no doubt that in forests under fire-protection, especially where such protection varies in regard to the length of time for which it has been secured, and the degree of its success, the state of reproduction must constantly disclose new phenomena and isolated facts worthy of record, and of great interest to the Forester.

10. The following table shows the progress made in artificial reproduction during the year under review :—

Circle.	Area in acres.			
	At the commencement of the year.	Added during the year.	Excluded during the year.	At the close of the year.
Regular Plantations				
Central	.....	50	.....	50
Oudh	1,403	519	.....	1,922
School	1,502	35	6	1,531
Total ...	2,905	604	6	3,503
Cultural Operations.				
Central	1,303	60	.....	1,363
Oudh	... ..	55	.....	55
School	.....	1,047	.....	1,047
Total ...	1,303	1,162	.. ...	2,465
Grand Total ...	4,208	1,766	6	5,968

In regard to this table, I am to draw attention to the discrepancies, noticed in the appendix to this letter, between last year's figures at the close of the year and the opening figures for the year under review, and to the fact that in the body of the Central Circle Report the Ranikhet Plantation is shown to contain 50 acres, whereas in Form No. 52 the area is given as unknown. It may be necessary to "estimate" the area of cultural operations scattered over considerable tracts of forest; but the entry of the areas of regular plantations with definite accuracy should present no difficulty and should be insisted upon in the returns for the year 1886-87. In some instances, doubts are expressed as to whether the work has been rightly classed as "regular plantations." This again, I am to suggest, should be definitively settled.

The actual progress made during the year, after deducting the areas which had to be entered by way of correction of statements, seems, according to the returns submitted by the Conservators, to consist in the addition of 529 acres to the area of Regular Plantations and 1,043 acres to the extent of Cultural Operations.

A considerable amount of attention has been paid to creeper-cutting in all three Circles, and the improvement of the character of the forest-growth by the removal of inferior species has been attended to on a small scale in the School Circle.

11. There has been a considerable decrease in the expenditure under the head of "Communications and Buildings." Most of the important forest roads in Oudh have been completed, and the question which is now brought before Government is that of connecting the main outlets of forest produce with the railway system in the submontane districts by means of tramways. His Excellency in Council has read with interest the remarks made by the Conservator in Oudh regarding this subject, and agrees with His Honor that the project is of too great importance to be disposed of in the review of an Annual Administration Report.

12. It is evident, from a perusal of the Reports under review and the remarks made by His Honor the Lieutenant-Governor in his Resolution thereon, that some misunderstanding exists with regard to the use of the Forest Code, Forms Nos. 7, 53, and 57, and this matter will be dealt with in a separate communication.

13. According to the statements submitted, the fellings of the year yielded the following material :—

Circle.	Selection Fellings.			Thinnings			Clearances.			Grand Total.		
	Timber	Fire-wood	Total	Timber.	Fire-wood.	Total.	Timber	Firewood	Total	Timber	Firewood	Total.
	Cub ft	Cub. ft	Cub ft.	Cub ft	Cub ft.	Cub ft	Cub ft	Cub ft	Cub ft.	Cub ft	Cub ft	Cub ft
Central ...	398,438	189,926	588,364	31,575	10,390	41,965	258,198	933,761	1,191,959	688,211	1,134,077	1,822,288
Oudh .	582,436	58,760	741,196	98,878	648,807	747,685	3,127,436	1,548 683	4,676,099	*3 908,750	*2,256,230	*6,164,980
School	438,339	107,220	545,559	125,890	240 344	366,234	58,790	390,647	449,437	623,019	738,211	1 361,230
Total	1,519,213	355,906	1,875,119	256,343	899,541	1,155 884	3,444,424	2,873,071	6,317,495	5,219,980	4,128,518	9,348,498

The total yield is 3,400,000 cubic feet in excess of the previous year.

14. This large outturn is due to the extensive sleeper operations in Oudh, which were considered necessary to meet a sudden demand, were justified by reserves of growing stock resulting from former short fellings, and were unobjectionable with regard to the sylvicultural conditions of the forests. So much may be admitted, but whether exploitations on so large a scale can be maintained seems doubtful, and operations should be contracted till their extension is justified by the results of the more detailed valuations now in progress.

The proportion between the yield in timber and firewood is 5 to 4.

15. The following table shows the extent to which the several agencies were employed in the extraction of timber and firewood :—

Circle	By Departmental Agency			By Purchasers.			By Right-holders			Free Grants			Grand Total		
	Timber	Fire-wood.	Total	Timber	Fire-wood	Total	Timber	Fire-wood	Total	Timber	Fire-wood	Total	Timber	Fire wood	Total.
	Cub ft	Cub ft	Cub ft	Cub. ft	Cub ft	Cub ft	Cub ft	Cub ft	Cub ft	Cub ft	Cub ft	Cub ft	Cub. ft	Cub ft	Cub ft.
Central	81,737	209,832	291,569	507,110	806,845	1,313,955	87,869	103,892	191,761	11,495	13,508	25,003	688,211	1,134,077	1,822,288
Oudh	1,117,127	474 110	1,591,237	378,006	1,294,712	1 672,718	20,000	..	20,000	2,394,617	435,408	2 880,025	*3,909,750	*2 254,230	*6,163,980
School	151,896	252,404	404,300	362,198	476,807	823,005	..	12,000	12,000	108,925	...	108,925	623,019	738,211	1,361,230
Total ..	1,350,760	936 346	2,287,106	1 247 314	2,575,364	3,822,678	107,869	115,892	223,761	2 515,037	498,016	3,013,953	5,220,980	4,126 518	9,347,498

* The difference between these sets of figures cannot be reconciled from the Report.

The large quantity of wood removed under free grants has attracted the attention of the Governor-General in Council. According to the statements submittted, the timber thus extracted during the year under review, which was one of considerable departmental activity in regard to timber extraction, amounts in cubical contents to nearly half of the whole timber yield, and to upwards of 12 per cent. of the fuel produced. It is understood that the material thus granted is of much less value than that extracted by Government, or by purchasers on payment; but, nevertheless, the question seems to be of sufficient financial importance to deserve careful consideration on the part

of the Local Government. At the same time the judicious remarks made on customary profits and privileges, in paragraph 29 of the Resolution, have the full concurrence of His Excellency in Council.

The income from minor forest produce amounts, according to the statements submitted, to Rs. 2,97,149, which was almost entirely realized from purchasers. Only Rs. 11,881 worth of minor forest produce was granted free. It appears, however, to His Excellency in Council that the large reduction in grazing fees granted to villagers in the vicinity of the forests should find a place in this statement.

16. The financial results of the year were as follow:—

Circle.	Receipts.	Charges.	Surplus.		Proportion of Surplus to gross Revenue in 1885-86.
			1885-86.	1884-85.	
	Rs.	Rs.	Rs.	Rs.	Per cent.
Central	4,43,133	2,64,479	1,78,654	2,30,595	40
Oudh	6,81,712	5,03,198	1,78,514	2,26,263	26
School	3,36,649	2,06,843	1,29,806	95,369	39
Total in 1885-86 ...	14,61,494	9,74,520	4,86,974	...	33
Total in 1884-85 ...	15,72,319	10,20,102	5,52,217	...	35
Decrease in 1885-86	1,10,825	45,582	65,243	...	2

The Lieutenant-Governor's Resolution contains a clear review of the financial result of the year's working. The Surplus has decreased since last year by Rs. 65,000. The fall in Revenue occurred in the Central and Oudh Circles. The School Circle, on the other hand, has shown for some years past a gradually, but steadily, increasing revenue, which seems to some extent due to the system of management.

I am to ask that, with the permission of His Honor the Lieutenant-Governor, a comparison be made of the net profits from similar material extracted under the system in force in the School Circle and under that described in paragraph 26 of His Honor's Resolution as existing in Kumaun and Garhwal.

17. The results of the administration during the year under review, as summarized in His Honor the Lieutenant-Governor's excellent Resolution, reflect credit on the Forest Staff of the Province, and His Excellency the Governor-General in Council has great pleasure in concurring with Sir Alfred Lyall in his remarks regarding the services of the Conservators.

The Conservators' Reports, however, leave much to be desired in accuracy, conciseness, and clearness, and His Excellency in Council trusts that, in future, the provisions of section 237 of the Forest Code will be more strictly adhered to. Each sub-head should commence with a generalization, which should refer to the whole Circle and include an abstract exhibiting the progress of the work. Care should also be taken to record, under each sub-head, only such facts as fall within its scope.

In conclusion, His Excellency the Governor-General in Council expresses his thanks to Sir Alfred Lyall for the great interest taken by him in Forest Administration.

Appendix showing the discrepancies noticed in the Forms appended to the Report of Forest Administration in the North-Western Provinces and Oudh for 1885-86.

FORM No. 52.

AREA OF PLANTATIONS.

Central Circle.

The area on 1st April 1885 is shown as 1,319 acres, whereas in the previous year's Report it was shown as 1,303 acres on 31st March 1885. The difference (16 acres) should have been entered in the column "Added during the year."

The area of the Ranikhet Nursery is stated in this Form as "not known," whereas in paragraph 50 (page 14) of the Report it is said to be 50 acres.

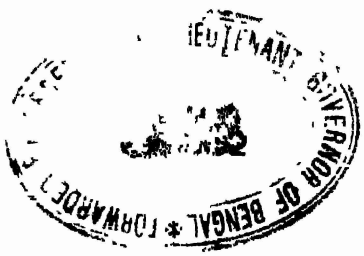
Oudh Circle.

The area on 1st April 1885 is shown as 1,422 acres, whereas in the previous year's Report it was shown as 1,403 acres on 31st March 1885. The difference (19 acres) should have been entered in the column "Added during the year."

School Circle.

The grand total area on 1st April 1885 is shown as 2,210 acres, whereas in the previous year's Report it was given as 1,502 acres on 31st March 1885. The difference (708 acres—*viz.*, 1 acre of Regular Plantations and 707 acres of Cultural Operations) should have been entered in the column "Added during the year."

G. C. B. Press, Simla.—No 130 R. A. D.—20-5-87.—310.



No. 45 of 1887-88.

FROM

C. BAGSHAWE, Esq.,

Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh,

To

J. WOODBURN, Esq.,

Secretary to Govt., N.-W. P. and Oudh, Revenue (Forest) Dept.

DATED NAINI TAL, THE 7TH JULY, 1887.

SIR,

I HAVE the honor to submit the annual Progress Report on Forest Administration in the Central Circle for 1886-87.

I have the honor to be,

Sir,

Your most obedient servant,

C. BAGSHAWE,

Offg. Conservator of Forests, Central Circle.

CENTRAL CIRCLE REPORT.

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CENTRAL CIRCLE.

N.-W. PROVINCES AND OUDH.

ANNUAL PROGRESS REPORT

OF

FOREST ADMINISTRATION

FOR THE YEAR ENDING 31st MARCH, 1887.

By C. Bagshawe, Esq., Officiating Conservator of Forests, Central Circle.

INTRODUCTION.

Mr. Greig held charge of the Circle to the 21st June, 1886, when he proceeded on furlough and was relieved by Mr. C. Bagshawe, who was in charge to the close of the year.

2. The controlling staff of the Circle was strengthened during the year by the transfer of Mr. F. B. Bryant, Assistant Conservator, from Oudh, but owing to the grant of necessary leave, it still only provides an officer for each division, and no officer is available for special duty. This is to be regretted, as work is outstanding which should, when completed, improve the forest revenues.

3. No important changes in the area of the forests, or in the system of administration, took place during the year, which was, however, one of steady advance; the protection of the forest has been well maintained, the demand for forest produce has been above the average, and the net revenue Rs. 3,00,906, or Rs. 168 per square mile, is satisfactory in amount.

The demarcation of the new reserves (late Iron Company's grant) was completed and the survey of the boundaries started by the Forest Survey. The settlement of rights in these forests was not completed at the close of the year, but the work is now progressing on a sound basis and will, it is hoped, shortly be finished.

Proposals to increase the area of the forest administered to supply the Naini Tal settlement were approved of and preliminary steps taken to reserve additional forest tracts.

The area under fire conservancy has been extended by 25,755 acres, or 10 per cent.

The Military authorities asked for suggestions for working the Ranikhet-Chaubattia Cantonment Forest, and a simple working plan was drawn up by Mr. Braidwood, Deputy Conservator of Forests, assisted by Mr. Blanchfield, Sub-Assistant Conservator of Forests. Up to the close of the year no final orders on the subject had been passed; meanwhile the Cantonment Committee is generally regulating the working of the forests by the proposed plan.

The Cantonment forests include an area of 2,978 acres fairly stocked with chir and oak and free of rights of usage. It is important, apart from sanitary and other considerations, that this area should be administered on sound principles, so that it may supply a due quota of the increasing demand for fuel, &c., at Ranikhet, a station at present housing a European force 2,600 strong, exclusive of followers.

Proposals for further systematising the management of the Bánda forests were drawn up by the Officiating Conservator, in conjunction with Mr. Smith, Collector of Bánda, and were submitted for the orders of Government in March, 1887. Much

progress has already been made in the Bánda forests, and if the further steps towards methodic working now suggested are adopted, it is believed the condition of these valuable tracts will rapidly improve.

CHAPTER I

AREA AND BOUNDARIES.

I.—Area.

4 Dealt with in abstract the forest areas in this Circle appear as follows :—

Divisions	Area on 1st April, 1886.	Added during 1886-87	Excluded during 1886-87.	Area on 31st March, 1887.
	Square miles.	Sqr. Mls. A R P	Sqr. Mls. A R P	Square miles.
Naini Tal ...	42	...	...	42
Kumaun ..	535		...	535
Garhwál	500	.	.	500
Ganges ...	349	..	...	349
Jhánsi	37	.	(1) 1 2 21	37
Lalitpur	140	...	(1) 79 0 0	140
Bánda ...	..	..	...	..
Total, Reserved Forests ...	1,603	...	0 80 2 21	1,603
Naini Tal	69	0 192 0 0	0 192 0 0	69
Kumaun	..		...	
Garhwál ...	...		...	
Ganges	..	.		..
Jhánsi ...	...		...	...
Lalitpur ...	4		.	4
Bánda	..	...	...	.
Total, Protected Forests ...	73	0 192 0 0	0 192 0 0	73
Bánda	118	...	...	118
Total Unclassed State Forests and waste lands.	118	.	...	118
Grand Total of all Forests	1,794	0 192 0 0	0 272 2 21	1,794

(1) Taken up for the Indian Midland Railway.

In paragraph 3 of the review of the Forest report for 1885-86, (G.O. $\frac{\text{61ak}}{\text{569 4}}$, dated 16th December, 1886), it was stated that the entry of the proposed reserves (Dabka, Dechauri and Fatehpur, Blocks, I, II, III, of Kumaun Division, and the Naini Tal Reserve of the Naini Tal Division) formed from the lapsed grant of the late Kumaun Iron Company, was premature, but as the area of the reserved forest of the Circle was accepted in the review as 1,603 square miles, these practically reserved forests are, for convenience, still shown as reserves, although the final notification under section 19 of the Forest Act has not been issued. In the case of other proposed reserves they are excluded from the area statements.

In the Naini Tal protected forests, Block I, Ayarpatha, area 192 (2) acres, has been handed over to the Naini Tal settlement in exchange for a plot of forest land of the same area on Luriya Kánta which now forms part of Block I of the Naini Tal protected forests. The value of the stock in these two plots is about the same, while Ayarpatha is more suitable for building in, and Luriya Kanta, forming a continuation of the main Naini Tal forest area, is easier for the department to protect.

80 acres 2 roods 21 poles in Jhansi and Lalitpur were taken up for the Midland Railway.

5. The area of divisions was the same at the beginning and the ending of the year

Note.—(2) corrected area ; shown last year as 193 acres.

It has been notified under section 4 of the Forest Act by North-Western Provinces and Oudh G.O. No. $\frac{27F}{874-10}$, dated 12th January, 1887, that it is proposed to reserve the Niglath and Gagar Forests, Kumaun district, approximate area 37 square miles, five to fourteen miles east of Naini Tal. These forests and other unclassed State Forests and waste lands in Kumaun and elsewhere have not been entered in Form 49, as area statements were not procurable, the Bánda forests therefore are the only tracts shown under the head of "Unclassed State Forests."

6. The forests of the Circle form part of the following districts :—

Name of District.	Area of district. Acres	Total forest area as per Form 49 of this report.	Percentage of district under forest management.
Kumaun	3,840,000	540,627	14
Garhwal	3,520,000	368,880	10
Bijnor	1,195,987	57,458	5
Jhánsi	1,002,784	23,830	2
Lalitpur	1,246,544	92,269	8
Bánda	1,895,003	75,454	4
Total, Acres ...	12,700,068	11,47,018	9

I give these figures as they show in how few districts, as compared with the number that draw supplies therefrom, the forests of the Circle are reserved, and because they point out (as will be shown later on in this report) how important it is that these forest areas should be viewed as primarily reserved to provide timber for other districts, while the "unclassed State Forests and waste lands," with the uncultivated areas of settled villages, should ordinarily provide fixed areas for fodder reserves and grazing lands.

With regard to possible extensions of the reserved forest area, or other areas under systematic management, a few notes may be useful.

In Kumaun steps are being taken to bring the area under management near Naini Tal up to the minimum area required to meet the local demands. Near Ránikhet, unless the cantonment increases, it is believed a sufficient area is already reserved.

For the forests near Almora a plan is under discussion for managing the Siahi Devi and other forests under an improved system.

In the Kumaun Bhábar, where there are large areas of unclassed State Forests administered by the District Officer, the Commissioner of Kumaun is taking steps to methodise their management, so that they may, as far as possible, furnish the villages with grazing, &c., and form, as was intended, the first source of supply for right-holders who hold rights in these areas and also in reserved forests.

In Garhwál enquiries are being made as to the feasibility of reserving certain chír forests on the Alaknanda river; while north of the present submontane reserves certain tracts of sál forest are being examined, which it may be possible to declare reserved, or village forests, at the approaching land settlement, with a view to meeting the demands of right-holders on existing reserved forest and of villages beyond our present boundary.

In Bijnor it is understood the maximum area of possible reserves has been attained.

In Jhánsi the addition of a tract of forest (the Bajna Hill, in the territory recently acquired from the Gwalior State has been mooted by the Deputy Commissioner.

In Bánda additions to the present Government forest area are advisable, but the difficulties in the way to obtaining any increase seem insuperable. With regard to grazing lands, the unculturable area in Bánda seems so large that no difficulties are anticipated. Bánda is not a cattle-breeding district, and fodder reserves seem to have no value in the eyes of the villagers.

2. Boundaries.

7. The rules in the different divisions of the Circle, defining the responsibility of range and beat officers in connection with boundary marks (which ran generally in the lines of the new rules of the School Circle), have under the orders of Government been reconsidered and made uniform for all divisions. Generally the state of the boundaries in the Circle is most satisfactory; three village tracts and a small length of outer boundary in the Ganges Division alone excepted.

8. **Naini Tal Division.**—The boundary marks of existing forests have been maintained in good order and no expenditure incurred. In the proposed Naini Tal Reserve the demarcation has been completed. Seven outer, and 1,130 village pillars have been built and Rs. 1,130 paid, leaving about Rs. 30 to be charged in 1887-88.

9. **Kumaun Division.**—The boundary marks of existing reserves were well kept up: expenditure Rs. 39-5-0. In the proposed Dabka, Dechauri, and Fatehpur reserves the demarcation was completed, and 93 outer, and 555 village pillars were erected for Rs. 1,217 (Rs. 1,092 paid during the year). Three miles seven chains of boundary line and patrolling path were made for Rs. 102-13-0.

10. **Garhwál Division.**—The boundary marks have been kept in good order, expenditure Rs. 133-14-6.

11. **Ganges Division.**—The southern boundary of Udepur reserve is in one portion reported as insufficiently defined, and the Divisional Officer has taken steps to have the deficiency made good. Generally, the boundaries of the Division (save Chandi-Bijnor) are in good order; some damaged pillars were in course of repair at the close of the year. In Chandi reserve, as far as the lands of Methiberi, Peli and Naluwala are concerned, the boundary pillars are in bad order, and as a temporary measure, damaged marks have been made good by numbered boards on adjacent trees.

A scheme is now under discussion for straightening this boundary now marked by 154 pillars and for demarcating it by cut lines and patrolling paths with 28 pillars at angles in the boundary lines. This scheme involves the transfer of a small area of poorly stocked forest to the villagers.

Rupees 35-5-0 were spent in repairs.

12. **Jhánsi Division.**—The boundaries are in good order and no expenditure was incurred.

13. **Lalitpur Division.**—The boundaries are clearly demarcated, no new pillars were built, and no repairs required, during the year.

14. **Bánda Division.**—The boundary is well indicated on the ground and all pillars were in good order. The work of cutting a line along the boundary in five villages (Nos. $\frac{I}{6}$, $\frac{I}{9}$, $\frac{I}{10}$, $\frac{I}{11}$, and $\frac{III}{21}$ of Form .49) was carried out, the wood cut on the line being given in lieu of cash payments.

CHAPTER II.

SURVEYS, WORKING PLANS, AND ANNUAL PLANS OF OPERATIONS.

15. Under "Surveys" the following is an abstract of the progress made:—

Forest survey

(*a*) Boundary survey of proposed new reserves late Iron Company's grant, begun 4″ maps of the area were previously prepared.

(*b*) Survey and map on 4″ scale of Ninglath and Gagar Forests (proposed new reserves) suggested. Sanctioned since the year closed.

(*c*) 4″ map sheets Kumaun and Garhwál survey.

Issued 66 sheets.
Due 15 „ as follows:—
Kumaun Division Nos. 73, 75, 76.
Garhwál „ „ 24, 29.
Ganges „ 3 to 11, and 14.

(*d*) 2″ reductions of the Kumaun and Garhwál 4″ survey undertaken and 27 sheets issued. Estimated cost of 81 sheets, Rs. 1,890.

(*e*) 1″ maps of the Nindhaur and Ganges Working Circle supplied.

(*f*) New edition of 6″ map of the Ranikhet-Chaubattia Cantonment Forests undertaken.

(*g*) New edition of ¼″ index map of forests in Kumaun, Garhwál, Tarai and Bijnor promised.

Revenue Survey.—1″ reductions of the 4″ maps of the Bánda forests supplied.

4″ map sheets Bánda forests, 16 supplied ; 2 sheets, Nos. 93 and 108, due.

16. The permanent working plans in hand last year have been completed, subject to revision by the Inspector General of Forests, and the sanction of Government. No additional permanent working plans have been commenced, as no officer was available for special work in this Circle.

Working in the forest area is regulated as follows :—

For 559 square miles permanent working plans have been drawn up.

1,235 square miles are managed under annual plans.

Of the latter area permanent plans for about 166 square miles (Kohtri and Palain reserves in Garhwál and the new reserve in Naini Tal) are urgently required.

17. **Naini Tal Division.**—The survey of boundaries in the proposed reserve was in progress at the close of the year and has since been completed, while the Ninglath-Gágar Forest Survey has been sanctioned, and the surveyors are also surveying new roads, &c., made in Naini Tal since the publication of the 4″ maps.

The working plans for Ranikhet and Naini Tal have been completed by Mr. Fernandez and submitted for the orders of the Inspector-General. Pending the sanction of the plans, the working of the forests is being regulated by their provisions.

The annual plan of operations was generally worked up to ; the following works being deferred :—

(*a*).—Nalona 7′ path, on account of the land where it passed through cultivation not being procurable on fair terms.

(*b*).—Planting up vacancies in Dalmoti (Ranikhet) with chír, and in Jainoli with nursery plants, in the first instance, because there was no seed ; in the second, to reduce expenditure.

18. **Kumaun Division.**—The forest survey completed the survey of the boundaries of the proposed reserves Dabka, Dechauri and Fatehpur. Mr. Hearle's working plan for the Nindhaur working circle has been completed, approved of by the Inspector-General of Forests, and submitted to Government for sanction. Pending sanction the working of the forest has been regulated by Mr. Hearle's plan.

The provisions of the annual plan of operations were carried out, with the following exceptions :—

Demarcation of area open to rights in the three proposed reserves, postponed because not finally settled.

Sinking a well at Dogari in the Talla Des Range, postponed for lack of funds.

The renewal of a big bridge on the Nindhaur valley road was similarly postponed.

19. **Garhwál Division.**—The annual plan of operations was carried out, with the following exceptions.

Fire conservancy.—The clear cutting of the western outer line of Garibulchand deferred until next season to equalize expenditure.

Creeper cutting.—The area to be cut over in the South Patli Dún was reduced on account of lack of funds.

Road-making in Patli Dún Range.

Opening out the Adnala road 12 ft.

Realignment of the Magnu-Khal-Mandal road was deferred for lack of funds.

20. **Ganges Division.**—The working plan of the Ganges working circle (which includes 141 square miles out of the 349 square miles of the division) by Mr. Hearle, was completed and submitted for the orders of the Inspector-General of Forests. Some references regarding certain provisions of the plan are still under settlement, and the working plan will shortly be laid before Government.

It is important that a permanent working plan should be drawn up for the Kotri Dún, a forest the value of which has been considerably enhanced by the main line of the Oudh and Rohilkhand Railway being opened within 14 miles of its southern boundary. It was proposed to take the work in hand in 1886-87, but no officer was available for the purpose.

21. **Jhánsi Division.**—The annual plan of operations was carried out, with the following exceptions:—

Roads and Buildings.—The repairs of the Dhukwan forest house were not completed, but were in hand at the close of the year.

Artificial Reproduction.—The extension of planting operations in Magarpur and Bhasneo was postponed.

22. **Lalitpur Division.**—The annual plan of operations, including an extension of felling of timber and cutting of bamboos, was carried out, with the exception of the proposed erection of an additional forest depôt, which was deferred as not at present required.

23. **Bánda Division.**—The annual plan of operations was carried out, with the following exceptions:—

Boundary Work.—Erection of additional boundary pillars. It was found these were unnecessary.

Construction of an outpost near Chulha, where the district and forest boundary marches with the Panna State.

Communications on the subject are in progress with the Political Agent.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

1.—Establishment.

24. The divisions of the Circle were held charge of as follows:—

Naini Tal	...	Mr. Braidwood, Deputy Conservator of Forests, 3rd grade.	Throughout the year.
Kumaun	...	„ Bryant, Officiating Deputy Conservator of Forests, 4th grade	Ditto.
Garhwál	...	„ C. Bagshawe, Deputy Conservator of Forests, 2nd grade.	1st April to 20th June, 1886.
		„ Eardley-Wilmot, Officiating Deputy Conservator of Forests, 3rd grade.	21st June, 1886 to 31st March, 1887.
Ganges	...	„ Brereton, Deputy Conservator of Forests, 1st grade.	1st April to 4th July, 1886.
		„ Wilmot, Officiating Deputy Conservator of Forests, 3rd grade.	5th July to 24th September, 1886.
		„ Brereton, Deputy Conservator of Forests, 1st grade.	25th September, 1886 to 31st March, 1887.
Jhánsi	...	Deputy Commissioner of Jhánsi.	
Lalitpur	...	Deputy Commissioner, assisted by—	
		Mr. J. V. Sturt, Assistant Commissioner.	1st April to 7th June, 1886.
		Sah Sayyid Muhammad Zahir Alum, Extra Assistant Commissioner.	8th June to 8th August, 1886.
		Mr. J. V. Sturt, Assistant Commissioner.	9th August to 31st March, 1887.
Bánda	...	Collector of Bánda.	

Protective and office establishments of the Circle, permanent and temporary, stood as follows at the end of the year, and the actual charges incurred are noted below :—

Division.	Executive and Protective Establishment.					Office Establishment.				
	Permanent sanction per annum.	Temporary sanction per annum.	Total sanction as it stood on 31st March, 1887.	Actual Charges.		Permanent sanction per annum.	Temporary sanction per annum.	Total sanction as it stood on 31st March, 1887.	Actual Charges.	
				1885-86.	1886-87.				1885-86.	1886-87.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Direction ...	...	...	...	...	...	3,766	18	3,774	3,778	3,774
Naini Tal ...	4,164	1,416	5,580	4,745	4,890	840	240	1,080	840	840
Kumaun ...	10,968	6,018	16,986	14,103	13,526	2,136	...	2,136	2,132	2,094
Garhwál ...	9,664	6,522	16,186	14,605	14,705	1,896	...	1,896	1,656	1,896
Ganges ...	5,832	8,998	14,830	12,663	12,771	1,392	...	1,392	1,392	1,392
Jhánsi ...	1,164	215	1,380	1,328	1,318	60	...	60	60	57
Lalitpur ...	1,680	192	1,872	1,678	1,707	204	...	204	204	202
Banda ...	1,440	96	1,536	1,334	1,309	780	...	780	780	780
Unallotted ...	252	...	252	...	...	...	...	...	...	...
Total ...	35,364	23,458	58,822	50,456	50,226	11,064	258	11,322	10,842	11,035

I have not attempted to separate the executive and protective establishment because, as a temporary arrangement, many of the executive charges are held by Foresters, nominally members of the protective staff, so that the separation would be misleading.

The only change of importance in the establishment was the transfer of the staff (monthly pay Rs. 178) employed in the proposed new reserves (late Iron Company's grant) from the temporary to the permanent establishment.

The savings in sanctioned establishment are due to—

(*a*). Appointments, the monthly pay of which aggregate Rs. 150 a month being kept vacant pending the appointment of qualified Rangers.

(*b*). Savings of half pay when "recess leave" is granted during the close season in the submontane divisions.

26. The following progress has been made in recruiting for the executive staff:—

Forest Ranger Chintamani, Foresters Bagh Singh, Upendra Datt and Jot Ram (the latter subject to re-examination in survey) have passed out of the Forest School, the first from the Ranger's, the three latter from the Forester's class.

Muhammad Yáwar Husain, a probationer in the Ranger's class, had to be dismissed for discreditable conduct during the October, 1886, final examination.

Forester Badri Datt, Forester Apprentices Gajadhar, Manawar Singh and Rampershad, joined the School in July, 1886, and will, it is hoped, pass out in October, 1887.

Probationer Pershadi Lal and Forester Apprentices Jodh Singh and Dabi Datt are to join the School in July, 1887.

It is proposed that four more students be sent to the School in 1888. By 1890 we hope to have fifteen passed subordinates.

The passed men and the men now at School have been favourably reported on by the Director.

The difficulty experienced in obtaining qualified men for Probationary Rangers has led to an increase in the number of Apprentice Foresters.

27. Reports on the conduct of the officers in charge of the 17 Ranges in Kumaun and Rohilkhand vary a good deal; five are highly commended, five are spoken of with approbation, six are alluded to as indifferent or bad officers.

Mr. Braidwood, Naini Tal Division, reports very well of two of his Range officers; the third is past his work, and the fourth a man of very moderate parts. The staff in the Division needs strengthening.

Mr. Bryant, Kumaun Division, speaks highly of two of his subordinates (one, a valued old Government servant, has since died) and with approbation of a third. The fourth Range, owing to the death of the Forester in charge, laboured under the disadvantage of several changes, and the present Forester only took charge in March.

Mr. Wilmot, Garhwál Division, reports favourably of all his subordinates, with the exception of a Forest Ranger (and passed Rurki student) who utterly failed in his duty and was at the close of the year reduced to the Forester's grade.

Mr. Brereton, Ganges Division, does not (save with reference to Forester Upendra Datt) report well on the Foresters in charge of his Ranges; he notes that they are not up to their duties, are dilatory and shrink from responsibility. One Forester was for neglect of duty temporarily reduced a grade.

The Deputy Commissioners of Jhánsi and Lalitpur were satisfied with the work of their Foresters. No Rangers have been posted to either Division.

The Collector of Bánda spoke highly of Forester Karim Bakhsh's work, and he was, at the close of the year, promoted to the 1st grade.

While we have many notably good Range officers, there is no doubt that, owing to novel and increasing work, there is an urgent demand for specially qualified men, and this demand has been intensified by the recent death of a Forest Ranger and two senior Foresters, all of whom were good servants of Government and difficult to replace.

28. The staff of Foresters in charge of beats and of Forest Guards has generally worked satisfactorily, and both the protective and revenue establishments are, on the whole, well up to the mark.

2.—General protection and breaches of Forest law, and the Penal Code.

29. The general protection was satisfactory, except in some of the areas open to rights and, in a less degree, in areas open to grazing by the cattle from large cattle stations, in both of which cases the Department is a good deal hampered by rights and old customs. Some time must elapse before right-holders can be induced to exercise their powers in a sensible way, but patient pressure has done much, and the past year has been one of progress in regulation of rights, &c.

I give a comparative abstract of the breaches of forest laws and rules and, to make the form complete, add the forest cases in Bánda dealt with under the Penal Code (as these forests are not at present under the Act), and also the cases compounded in the Naini Tal Division. These two series of cases were last year separately noted in paragraph 32, page 6, of the Circle report.

Divisions.	Year.	Cases before the courts including pending cases from previous year.	Prosecutions.				Cases pending.		Remarks.	Cases compounded by Divisional Officers, section 67, Indian Forest Act.	
			Convictions.		Acquittals.						
			Cases.	Persons.	Cases.	Persons.	Cases.	Persons.		No. of persons.	Amount received in compensation.
Naini Tal...	1885-86	105	88	179	15	57	...	...	Divisional officer, 46 cases.	240	339
	1886-87	109	64	97	45	99	...	...	Cantonment Magistrate, 57, Divisional Officer, 70 cases, Cantonment Magistrate, 39.	460	719
Kumaun ...	1885-86	...	...	...	...	...	...	...	...	118	288
	1886-87	2	1	1	1	1	...	...	District Officer ...	131	502
Garhwál ...	1885-86	6	5	12	1	6	...	...	Divisional Officer,	176	399
	1886-87	2	1	4	...	...	1	13	Divisional Officer, 1 case District Officer, 1 case pending.	100	428
Ganges ...	1885-86	6	1	4	1	1	4	5	District Officers ..	74	460
	1886-87	5	1	1	2	3	3	3	Ditto ...	90	592
Jhánsi ...	1885-86	9	7	11	2	2	...	...	Ditto ...	...	...
	1886-87	7	7	25	...	...	...	...	Ditto ...	...	...
Lalitpur ...	1885-86	15	12	46	3	5	...	...	Ditto ...	...	...
	1886-87	5	5	8	...	...	...	...	Ditto ...	4	15
Bánda ...	1885-86	16	16	34	...	...	...	...	Ditto ...	...	...
	1886-87	16	15	27	1	1	...	...	Ditto ...	...	...
Total ...	1885-86	158	129	286	22	71	4	5		608	1,476
	1886-87	147	94	163	49	104	4	16		785	2,256

The number of cases in Courts and persons concerned has decreased by 5 per cent. and 25 per cent.

The percentage of convictions has decreased from 83·7 per cent. in 1885-86 to 63·9 per cent. in 1886-87.

The number of persons who compounded their offences has risen by 177, and the average individual payment increased from Rs. 2·44 to Rs. 2·87.

The decrease in convictions is chiefly in the Naini Tal Division, where the Cantonment Magistrate, Ranikhet, acquitted a large number of men charged with illicitly cutting grass in the closed forest, the evidence of a single Forest Guard and of the cut grass was deemed insufficient. Cases affecting 72 persons, chiefly for causing forest fires 13 men, illicit cutting of trees 12 men, and illicit lopping 17 men, were dismissed by the Divisional Officer.

The increase in compounded cases in Naini Tal was mainly in connection with lopping branches for fodder, &c. A limited number of villages possess the right to lop, but it was found others than right-holders were lopping, and as this is the most injurious right in the forest, stricter steps were taken to control it; 190 out of the total of 460 persons were charged with this offence.

The increase in Kumaun is principally due to the transfer of the management of the cattle-stations in East Kumaun from the Bhábar officials to the Forest Department, and the increase is in cases of lopping, &c. There were no serious offences and the forest rules, &c., have, on the whole, been well observed, save in the newly-acquired tracts, which are in a transitional state, and where forest law is only partially in force.

In Garhwál, while protection was generally effective, a satisfactory decrease in cases occurred. Rs. 218 out of Rs. 428 were realized in bamboo cases.

In the Ganges the increase was due to an increase in the number of Gujars who have migrated from the Dehra Dún. They did a good deal of damage early in the season by lopping, and steps have been taken to prevent their coming in large numbers to the Ganges next year.

3. Protection of the forests from fires.

30. As this report must be completed before the dry season of 1886-87 will have closed, notes on the subject of protection from fire will be added as an appendix.

4. Grazing and Fencing.

31. The area closed to grazing absolutely, or only open to exporters' cattle for limited periods, is about 503 square miles, or 31·3 per cent. of the forest area. About 25 square miles in Kumaun and 15 square miles in the Ganges Division have been added during the year. As a rule, as far as the grazing of grass is concerned, the open forest is not over-grazed, the most marked exceptions being some of the areas open to rights in Ranikhet, in Kotah (Garhwál) and in parts of the Ganges Division; here the grazing by right-holders and in some places by cattle-stations in many places checks, and in others prevents, reproduction even in areas successfully protected for many years from fire.

In the new forest settlement this difficulty will, it is hoped, be met by a system of rotation in the areas open to grazing, fodder grass from the closed areas being given (as in the Ranikhet forests open to rights) free of dues to the right-holders, a privilege which is, when once understood, highly valued by the villagers. Advance on these lines in the older forests is, as might be expected, slow.

That most pernicious description of grazing, lopping trees for fodder, still causes much damage. It has, in Garhwál, been made the subject of special regulations sanctioned by the Commissioner of Kumaun and of special action in Ranikhet and in the Ganges. The main difficulty in connection with this subject is the apparent impossibility of forbidding it entirely, as, at certain seasons, there is no other fodder available for the cattle. Except in Ranikhet, no recourse to fencing is deemed necessary.

32. In the Naini Tal Division the closed area remains the same, but steps were under consideration to increase the number of closed tracts, a measure favourable to the villagers in connection with fodder grass and to the regular working of the forests. Rs. 469-14-0 were spent in putting the fences of the four closed tracts in thorough order.

33. In the Kumaun Division the area closed to grazing coincides with the area under fire protection, *viz.*, 39,052 acres and has this year been nearly doubled. In Horai and Chandni, the most exposed blocks, the protection, though not perfect, has been quite sufficient to prevent damage to the young growth.

34. In the Garhwál Division no change was made in the closed area. Protection in Rohar and Garhibulchand, the forests most liable to trespass, was effective. Rules for the guidance of Bhutia sheep-owners came into force in November, 1886; they fix the camping-grounds, the duration of halts, and limit lopping to "ber" and "katber."

35. In the Ganges Division about 15 square miles in Gori, Udepur, and Kohtri have been added to the closed area. The villages on the Ganges objected to the closure in Gori, but the rights of Government are clear, and next year no difficulties are anticipated.

As noted in para. 29, steps have been taken to reduce the number of Gujar graziers, which has this year become excessive.

36. In the Jhánsi Division in 1,483 acres the grass is preserved for cutting fodder only, in other areas the right to graze is given on payment of dues, while in some areas, specially sold by auction, the lessee is allowed to cut grass and graze. The receipts from the sale of the grass and from grazing dues increased.

37. In the Lalitpur Division no grazing is allowed in 1,749 acres, the area protected from fire. In the remainder of the forest the right to issue grazing passes is leased to contractors.

38. In the Bánda Division no area is absolutely closed, but buffaloes and goats are excluded and no cases of overgrazing were noticeable. In the shared forest tracts ($\frac{55}{45}$ arrangement) the village co-sharers graze free; all other graziers pay grazing dues direct to Government.

5.—Natural Reproduction.

39. The year was notable for the sál seeding in almost every sál forest of the Circle and for most successful germination.

The bamboos in Chandi forest in the Ganges have nearly all seeded during the year, following it may be noted the bamboos in the Saháranpur Division; severe frost early in February did much damage to the young growth in Garhwál and the Ganges, not only in damp forests at low elevations, but also high up the valleys and hillsides in Kotri and the Patli Dún. Saplings up to 20 feet high suffered severely.

Mr. Wilmot, who returned to the Kosi forest after an absence of eighteen months, noted a marked increase in the young growth, and the improvement in all fire protected forests not overgrazed is most satisfactory. His Honour the Lieutenant Governor, during his visit to the Patli Dún in February, 1887, was pleased to notice the satisfactory progress in reproduction in closed areas.

The removal of old unsound trees covering young growth and in many places thinning of saplings is now becoming a matter of the first importance, apart from the consideration of whether they can be made to directly pay. During the year thinnings were made in Garhwál and Kumaun, and attempts to sell increased numbers of unsound trees at low rates were made, but the market for the small stuff (bedposts, &c) they yield seems limited.

In the hill forests reproduction, save in overgrazed areas, which are not numerous, is satisfactory.

The Deputy Commissioners of Jhánsi and Lalitpur report favourably on natural reproduction; as I was unable to visit these forests, I can give no notes on the subject.

In Bánda, in a tract in Chauri-Donda protected from fire for one year only, much improvement in the young growth was observable, while in the Koluwa forest, which is lightly worked and does not suffer much from fire, fair reproduction was noticeable. Mohwa seedlings were frequent in all forests.

Marked improvement from general protection was observable.

6.—Artificial reproduction.

40. Measures to extend artificial reproduction in the Circle are very limited in extent, as works tending to promote natural reproduction and other works of necessity demand all our time and attention; so that, except in the hill forests, where it is important to treat the limited area at our disposal on plans likely to give us the largest yield as quickly as possible, the question of artificially stocking even extensive blank areas is not one of the first importance. Regular plantations are limited to Ranikhet.

Petty cultural operations are in progress in all Divisions.

Rs. 2,920 were spent against Rs. 2,796 in 1885-86. Owing to the transfer of five acres to the Nani Tal Municipality and two acres being struck off the list, the area only increased by five acres.

41.—Naini Tal Division.

Naini Tal—Cultural operations to extend or complete the areas in the protected forest partially stocked with deodar, kail, chir, walnut and ash, were carried out in China, Kaladhungi and Chatrani; 2,350 transplants were put out, and 10 seers deodar and 400 walnuts sown in nurseries by the expenditure of Rs. 70-1-9, while Rs. 51-0-6 were spent in shading and weeding all the areas requiring attention. The planting operations at Naini Tal reflect great credit on Mr. Braidwood. Where in 1871, within the nominal bounds of Government forest I remember extensive blanks due to existing or abandoned potato cultivation, &c., we now see flourishing copses of deodar, ash, walnut, oak and other valuable trees, while the Naini Tal forest, as a whole, forms a valuable and well-stocked estate.

Ranikhet.—The plantation at Ranikhet, as well as the cultural operations in the adjacent forests, are under the superintendence of Mr. Craw, whose lucid and most interesting notes on his charge are given in *in extenso* appendix D.

A small area, 4 acres 2 roods 4 poles, of the plantation uncleared at the close of last year, has been brought under cultivation; this area is specially suitable for rearing forest trees, large numbers of which will yet be required. The plantation has been improved by the commencement of a system of paths which will render all parts easily accessible.

The sowing of seeds of fruit and forest trees, as far as supplies were obtainable, was continued, and the stock of trees available for distribution will thus be fully maintained.

The free distribution of trees compares as follows:—

	1885-86.	1886-87.
Fruit trees	8,591	9,279
Forest trees	11,994	4,619
	20,585	13,898

The increase in the number of fruit trees is satisfactory. In connection with this issue a proposal was made by the Commissioner of Kumaun to employ, on behalf of the district, a trained subordinate of Mr. Craw's in visiting villages and teaching the villagers how to manage their fruit trees, but up to the close of the year this useful suggestion had not been carried into effect. The decrease in the issue of forest trees is due to the temporary stoppage of planting works in cantonments. The fruit crop of the year was sold by auction instead of retailed through an agent. The following are the quantities and net prices realized during two years :—

	1885-86.		1886-87.	
	Seers.	Rs.	Seers.	Rs.
Cherries, ...	77	102	102	Rs 942-12-0 realized by auction-sale.
Apricots	1,481	314	2,297	
Peaches	180	142	608	
Plums	159	184	127	
Apples	2,857	895	2,078	
Pears	272	241	105½	
Total ...	4,970	1,878	5,317½	942-12-0

Selling the Government fruit by auction prevents interference with the local selling rates, and follows the usual practice elsewhere.

The stock of trees in the nursery compares as follows :—

	1885-86.	1886-87.
Fruit trees	71,961	94,880
Forest "	145,552	115,693
Total number	217,513	210,573.

In the plantation for fruit the numbers compare as follows :—

	1885-86	1886-87
For layer stock	787	890
„ fruit, seed &c.	8,266	6,870

The Ránikhet plantation is in admirable order, and Mr Craw's very successful management of this tract and of the cultural operations should serve as a model for similar works elsewhere.

The Ranikhet reserve cultural oporations included planting out 10,766 willows, cypress, alder, walnut, horse-chestnut and ash, at a cost of Rs 120-9-9 at Dalmoti and Koirali (land formerly under village cultivation). In May, 1887, most of the transplants were doing well.

42 **Kumaun Division.**—Cultural operations were limited to the forest gardens for fruit, &c., at Haldwani and Chorgalia, where Rs 99 were spent.

43. **Garhwal Division.**—The Chopra experimental sál plantation was increased by five acres for Rs 163 The forest gardens for fruit, &c, at Ramnagar, Mohan, and Dhikala were maintained at a cost of Rs 160.

44 **Ganges Division.**—The mango groves at Saneh, Haldukhata and Chila and the forest garden at Haldukhata were maintained at a cost of Rs 111.

45. **Jhánsi Division.**—The mixed plantations of shisham, babul, &c., area 287 acres, were maintained, watered, &c, at a cost of Rs 286, and two acres planted up with shisham, but as two acres of bad unstocked ground were excluded, the area remains the same. The work was successful.

46. **Lalitpur Division.**—The Kuchnowda experimental teak plantation was increased by five acres, and the whole area, 25 acres, kept up for Rs. 100. The work was successful.

47. **Bánda Division.**—Rs. 9 were spent in experimental sowings *in situ*, and in a nursery of teak and sál, both of which trees grow in Banda, but, as a whole, the sowings failed. The teak seed may germinate during the 1887 rains.

7. Cutting of Creepers.

48. Creeper-cutting operations were carried on in the submontane forests; 13 square miles being worked over, compared with 26 square miles in 1885-86. The cost was Rs. 665 2-8 against Rs. 564-8-0, or Rs. 47-8-0 and Rs 21-11-0 per square mile, respectively. The work was limited by the funds available, and the variations in cost are due to the number of creepers per acre being larger.

49 **Kumaun Division.**—Creepers cut in—

	Acres	Rs	a	p
(1) Dhimigadh proposed Dechauri reserve, area about ..	1,435	44	13	6
(2) Compartment 36, Deolagadh Nindhaur working circle, area about	300	49	13	0
Total ...	1,735	94	10	6

About 5,000 creepers were cut by Forest Guards in their respective beats

50 **Garhwál Division.**—Creepers were cut in—

	Acres.	Rs	a	p
(1) Compartments 19 and 12, Block II, Kosi working circle	2,214	138	6	0
(2) Compartments 38, 39, 40, parts 41 and 44 of Block II North Patli Dun working circle	1,776	166	8	0
(3) South Patli Dún between the ridge, Sunta Khal and Chui Sot	1,224	114	12	0
(4) Behar between old Banjara, Ram Tal, and Kiripur-Navigarh roads and the outer boundary ...	1,465	137	8	6
Total ...	6,679	556	15	6

51. **Ganges Division.**—Creepers cut in the Sonanadi, acres 309, Rs. 13-8-8.

8. EXPERIMENTS AND EXOTIC TREES.

52. The observations in connection with the growth of sál were extended, and we now have the following areas marked off, containing third and fourth class trees, or, in unthinned areas, trees of all classes.

Kumaun Division —

Names of plots.				*Area.* Acres.	*Number* Standing trees.
Lakhmanmandi, thinned,	first measured March,	1884	...	2	114
Ditto, unthinned,	ditto,	1881	...	½	71
Sanman Thapla, thinned,	ditto,	1884	...	2	117
Ditto, unthinned,	ditto,	1881	...	½	71
North Khonáni, no thinning required,	ditto,	1887	...	1	90
Saláni, ditto,	ditto,	ditto	...	1	63

Garhwál Division —

					Area. Acres	*Number* Standing trees.
Amtanala thinned,	first measured March,	1884	...	...	2	114
Ditto unthinned	ditto	ditto	1881	...	½	71
Bánínágal thinned	ditto	ditto	1887	...	2	132
Ditto unthinned	ditto	ditto	"	...	½	80
Dhikala thinned	ditto	ditto	"	...	2	200
Ditto unthinned	ditto	ditto	"	...	½	196
Domunda thinned	ditto	ditto	"	...	2	157
Ditto unthinned	ditto	ditto	"	...	½	165

With a view to observing the growth of sál seedings an average area as to exposure and elevation, covered with 1886 seedlings, has been marked off and annual notes will be recorded in the Kotah (Garhwál) Forest journal.

The average annual increments in trees of all classes in the older specimen plots has been recorded as follows :—

Years.	NAME OF PLOT AND AVERAGE INCREASE.						*Average increase in the various plots per tree.*	
	Lakhman mandi		*Sanman Thapla.*		*Amtanola.*			
	2 acre thinned	½ acre unthinned	2 acre thinned	½ acre unthinned	2 acre thinned.	½ acre unthinned	Thinned	Unthinned
	Inches.	Inches	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
1884 85 ...	83	·42	61	·34	78	·37	·74	·376
1885-86 ...	1 08	·45	·71	41	·98	·35	·923	·403
1886-87	·68	28	48	·28	·54	38	·55	·313

The similarity in the figures in two of the half acre plots is curious, but the measurements given are reliable.

The proportion between the growth in thinned and unthinned plots shows some variation.

Notes on special trees and detailed figures as to the increase in each tree and class are available to any Forest Officer requiring data, but are too lengthy to be quoted here.

With reference to paragraph 58 of last year's report, on reconsideration of the question, it has been deemed better to adhere to annual measurements and to note the growth in every tree.

The Raninagal plot is in young sál forest.

53. The experimental sowing at Ránikhet of Sneezewood supplied by Mr. Fisher, Conservator of the School Circle, alluded to in paragraph $\frac{50}{5}$ of last year's report, as a whole, failed, but 15 seeds of the yellow Sneezewood (Podocarpus elongatus eulinegua) germinated some eight months after they were sown and the plants are doing well.

Some seed saved from gums planted 15 years ago at Rânikhet has germinated well.

9.—Communications, Buildings, and other Works.

54. The expenditure of the year compares as follows with that of 1885-86 :—

Years.	Roads and bridges.	Buildings.	Other works.	Total.
1885-86	26,388	9,810	1,460	37,658
1886-87	26,398	7,954	480	34,832
Difference in 1886-87	+10	−1,856	−980	−2,826

The reductions in expenditure are chiefly in the Garhwál Division, where the main buidings are completed, and in the Kumaun Division, where expenditure had to be curtailed to meet the forest settlement charges without increasing the average grant.

Roads and bridges.—The repairs of existing roads cost Rs. 23,995, and the construction of 34 miles of new roads cost Rs. 2,403. Besides the ordinary road expenditure Rs. 938 were spent on 44 miles of temporary roads and charged to timber expenses (A-II.)

The expenditure on buildings included Rs. 5,887-13-5 for construction and Rs. 2,065 for repairs. Under "other works" Rs. 381 were spent on wells and Rs. 99 on petty works.

(a).—Roads.

55. The permanent roads (charged to A-VII. *a.*) and paths, mostly charged to A-VIII. *e.* maintained by the department at the close of the year, were as follows :—

Description of road.	Length in miles (excluding fractions) in each Division.							Total.	
	Naini Tal.	Kumaun.	Garhwál.	Ganges.	Jhánsi.	Lalitpur.	Bánda.	1886-87.	1885-86.
In the Bhábar and plains.									
Cart roads	...	182	254	198	9	12	24	679	654
Bridle roads	...	49	193	118	...	...	...	360	300
Fire line and export paths	...	69	254	42	...	...	...	365	322
In the hills.									
Bridle roads	68	...	...	...	...	...	...	68	66
Total, 1886-87	68	300	701	358	9	12	24	1,472	
„ 1885-86	66	221	685	316	9	12	33	...	1,342
Difference in 1886-87	+2	+79	+16	+42	...	...	−9	+130	

The increase in Naini Tal and Garhwál is due to the addition of newly-constructed roads and paths. In Kumaun 36 miles of new road and path were made and 43 miles were transferred from the list of temporary roads.

In the Ganges, 23 miles new paths were made and 19 miles of bridle roads were transferred from the list of temporary roads. In Bánda the Kalianpur-Ranipur road was not repaired and has been excluded from the return.

The increase in mileage is therefore made up of new roads and paths 77 miles, transferred 62 miles, less 9 miles abandoned.

56. **Naini Tal Division.**—A new 4′ road, one mile 38 chains, at Rânikhet, from Khaniari to Dalmoti, was made for Rs. 36-12-0, and all old bridle roads kept in repair for Rs. 91-15-6.

57. **Kumaun Division.**—New lines of road were constructed as follows:—

In East Kumaun—

	Mls.	ch.	Rs.	a.	p.
Cart-road, Rinsali-Danktalia	3	60	228	0	11
Ditto, Jubileeganj-Chándni	5	60	422	15	6
Ditto, Kalaunia extension	2	77	206	7	10
Bridle export roads	4	47	105	0	0
Total, construction, Rs. ...			962	8	3
Repair of 214 miles cart and bridle road (including the entire renewal of the "Khunáni" bridge, 56 feet span, at a cost of Rs. 520-6-0)			5,636	10	5
Total Rs. ...			6,599	2	8

19 miles of fire line paths were made; all paths charged to fire conservancy (A-VIII. *e*)

58. **Garhwál Division**—New lines of road, Patli Dán Range, Mundal cart-road extension—

	Mls.	ch.	Rs.	a.	p.
Khakasgadi—Lohachaur	0	44	350	10	6
Mundia-Pani Rathwádhab	5	37	547	4	0
Adnala cart-road, alignment 3′ path	8	68	505	10	0
Total, construction ...			1,403	8	6
Repairs 431 miles of road (including improvements in 17 miles of cart-road)			13,720	6	9
Total Rs. ...			15,123	15	3

The increase in the cost of repairs of Rs. 5,250 is nominal only; in past years it has been the custom to pay the road repair charges for the season, half before, half after the 31st March, the contractors remaining responsible for maintenance until the burst of the monsoon. This year, final payments were made on the completion of repairs, a higher standard of work being demanded and later maintenance undertaken by Government, so the 1886-87 repair accounts include, as usual, half repair charges, 1885-86, and nearly the whole of the repair charges for 1886-87. One mile of fire path was made, 89 miles paths, Rs. 478 are charged to roads A-VII. *a*, 165 miles to fire conservancy, A.-VIII. *e*.

59. **Ganges Division**—By an error in the list of roads in 1885-86, 28 miles of bridle roads were shown as cart-road, hence the change in figures under the heads "Cart and Bridle road."

The repair of 316 miles of road cost Rs. 4,278-13-2, 23 miles of fire line path were added. All paths are charged to fire conservancy.

60. **Jhánsi Division**—Rs. 48 were spent in the repair of nine miles of road.

61. **Lalitpur Division**—The repair of 12 miles of road, Papri to Thanganah and to Bungawa, cost Rs. 120.

62. **Bánda Division.**—The repair of the road from Manikpur to Bhedak and to Tiliasih (12 miles), cost Rs. 50, and the Koluwa road (12 miles), Rs. 50; total Rs. 100.

(*b*).—BUILDINGS.

63. The number of buildings constructed or maintained during the year compare as follows with those in previous returns:—

Description of buildings.	*For controlling officers.*		*For subordinates excluding revenue, depôt.*		*Offices, stores and revenue depôts.*		*Wells.*		*Total.*	
	1885-86	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86	1886-87.
Permanent ...	15	19	11	15	30	35	6	7	62	76
Semi-permanent ..	6	6	...	22	25	5	...	...	31	33
Temporary ...	..	...	1	1	...	...	1	2	2	3
Total ...	21	25	12	38	55	40	7	9	95	112

The details by divisions are given in appendix E.

The expenditure incurred for buildings compares as follows with that of the previous year :—

	1886-87.	1885-86.
	Rs.	Rs.
Construction of rest-houses for controlling staff	4,026	2,099
,, permanent or semi-permanent quarters for subordinates, stores, &c.	1,862	4,870
Construction of temporary ditto		40
Repairs to existing buildings	2,066	2,801
Total ...	7,954	9,810

64. **Direction Division.**—

Repairs to office	26	3	6

65. **Naini Tal Division.**—New buildings—

	Rs.	a.	p.
Quarters Kilberry	80	0	0
Ditto Hinan	90	0	0
Tool store Chaubattia	103	0	6
Total ...	273	0	6
Repairs to existing buildings	204	12	2
Grand Total ...	477	12	8

66. **Kumaun Division.**—New buildings—

Completion, Haldwani office and stores (total cost Rs. 1,965-8-4) ...	113	9	6
Renewal of Dechauri rest-house taken over with the proposed new reserves (late Iron Company's grant)	1,526	3	1
Part payment for Aonla Khera rest-house	15	0	5
Total ...	1,654	4	0
Repairs to existing buildings	454	2	4
Grand Total ...	2,108	6	4

The Aonla Khera rest-house was not completed at the close of the year and will appear in 1887-88 returns.

67. **Garhwál Division.**—New buildings—

	Rs.	a.	p.
Garral rest-house	750	0	0
Dhela ,, ,, in part	58	10	0
Phanton forest depôt	130	0	0
Amangarh ,, ,, in part	50	0	0
Leti ,, ,, ,, ...	82	0	0
Dhikala depôt and quarters	513	0	0
Magnu Khal ,, ,, ...	100	0	0
Laldhang revenue depôt	300	0	0
Total ...	1,983	10	0
Repairs to existing buildings	992	15	5
Grand Total ...	2,976	9	5

The Dhela rest-house and the Amangarh forest depôt were not finished at the close of the year, and will appear in 1887-88 returns.

68. **Ganges Division.**—New buildings—

	Rs.	a.	p.
Completion, Sanch revenue depôt and office (total cost Rs. 1,050) ...	301	1	4
Haldukhata rest-house	908	3	0
Part payment Chaukamb house	767	10	7
Total ...	1,976	14	11
Repairs to existing buildings	22	7	9
Grand Total	1,999	6	8

The Chaukamb rest-house was not completed at the close of the year and will appear in 1887-88 returns.

69. **Jhánsi Division.**—Repairs to existing buildings, Rs. 116-3-6.

70. **Lalitpur Division.**—Repairs to existing buildings Rs. 228-5-3. Twenty forest depôts, or quarters for subordinates, last year were shown under revenue depôts; they have this year been transferred to the proper head, and two previously omitted entered.

71. **Bánda Division.**—Repairs to existing buildings, Rs. 20-11-0.

(c). Other Works.

72. The expenditure of the year compares as follows with that of 1885-86—

	1885-86.	1886-87.
Expenditure on wells	1,436	391
Ditto petty works	24	99
Total ...	1,460	490

The details of the year are:—

Naini Tal Division—

	Rs.	a.	p.
Petty works	10	0	0

Kumaun Division.—

	Rs.	a.	p.
Completion, Sadlimat well	289	8	3

Garhwál Division.—

Repairs to wells and sinking trial tube well	71	1	0
Rest house ditches and petty works	89	2	9

Ganges Division.—

Repairs to wells	6	14	0

Jhánsi Division.—

Repairs to wells	13	2	8

CHAPTER IV.

YIELD AND WORKING.

73. The difference between the timber outturn of the official year and the yield of the fellings made during the same period were explained in paragraph 71 of the 1885-86 report.

Steps have been taken to insure the entry of correct figures in the columns of appendices A and B, where the yield is given in cube feet. The yield and working of the forests will be reviewed from both points of view, *i.e.*, in the light of the Code Forms where the additions to stock, or the actual sales of the year are given, and in that of appendices A, B and C, where, as far as timber is concerned, the actual yield of trees felled is entered.

74. Dealing with the figures given in appendices A, B and C, supplemented where necessary by the Code Forms, &c., the yield and working of 1886-87 contrast as follows with that of the previous year:—

		1886-87.	1885-86.	Increase.	Decrease.
1	Green trees felled ... ... No.	67,051	47,412	19,639	...
2	Yield of above in timber and fuel ... ... c. ft.	677,591	585,136	92,455	...
3	Yield of timber, including timber from dry trees, c. ft.	866 611	799,673	66,938	...
4	Value of above ... ... Rs.	3,32,216	3,30,476	1,742	...
5	Yield of green timber ... ... c. ft.	506,810	509 015	...	2,205
6	Value of above ... ... Rs.	2,18,125	2,35,294	...	17,169
7	Yield of dry timber ... ... c. ft.	353,975	252,177	81,798	...
8	Value of above . ... Rs.	1,00,572	80,410	20,162	...
9	Yield of green timber removed by departmental agency ... ... c. ft.	77,821	100,011	...	22 690
10	Value of above ... ... Rs.	61,277	91,113	...	30,836
11	Yield of green timber removed by exporters ... c. ft.	315,898	323,562	...	7,734
12	Value of above ... ... Rs.	1,26,472	1,20,917	5,555	...
13	Yield of green timber removed by free grantees and right-holders ... ... c. ft.	103,306	85,442	17,864	...
14	Value of above ... ... Rs.	30,830	23,264	7,566	...
15	Yield of dry timber removed by exporters ... c. ft.	240,201	161,323	78,878	...
16	Value of above .. .. Rs.	67,882	46,860	21,022	...
17	Yield of dry timber removed by free grantees and right-holders ... ... c. ft.	21,364	13,892	7,472	...
18	Value of above ... ... Rs	5,648	3,806	1,842	...
19	Yield of firewood and charcoal ... ... c. ft.	1,524,921	1,134,077	490,844	...
20	Value of above ... ... Rs.	55,617	47,325	8,292	...
21	Yield of fuel removed by departmental agency, c. ft.	216,837	209,882	6,995	...
22	Value of above ... ... Rs.	40,596	34,236	6,360	...
23	Yield of fuel removed by purchasers ... c. ft.	1,279,499	806,845	472,654	...
24	Value of above ... ... Rs.	14,788	9,684	5,104	...
25	Yield of fuel removed by free grantees and right-holders ... ... c. ft.	89,895	117,400	...	27,505
26	Value of above ... ... Rs.	1,155	1,426	...	271
27	Timber sold by departmental agency ... c. ft.	88,907	70,354	18,553	...
28	Receipts from above ... ... Rs.	83,6 8	83,153	465	...
29	Timber sold direct to purchasers ... ... c. ft.	671,877	507,110	164,767	...
30	Receipts from above ... ... Rs.	2 50 800	1,76,066	74,824	...
31	Fuel sold by departmental agency ... c. ft.	248,016	246,825	1,191	...
32	Receipts from above ... ... Rs.	40,888	34 236	6,652	...
33	Fuel sold direct to purchasers ... ... c. ft.	1,279,499	806,845	472 654	...
34	Receipts from above ... ... Rs	14,974	9 684	5,290	...
35	Bamboos sold ... ... scores	1,064 768	791,681	273,088	...
36	Value of above ... ... Rs.	1,03 506	76,288	27,218	...
37	Minor produce and grazing ... ... Rs.	78,676	56,559	22,117	...
38	Value of other receipts ... ... Rs.	7,393	7,150	243	...
39	Yield (appendix B) per square mile in cubic feet of timber and fuel ... ... c. ft.	1,375	1,056	319	...
40	Value of above per square mile ... ... Rs.	209	203	6	...
41	Gross receipts (form 56) per square mile ... Rs.	324	247	75	...
42	Net receipts per square mile ... ... Rs.	168	99	69	...

The increase in the green tree fellings of the year occurs as follows :—

	1886-87.		1885-86.		Increase.		Decrease.	
	No.	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.	No.	C. feet.
Selection	53,228	647,807	43,486	521,466	9,742	125 941	...	...
Thinnings	3,564	6,741	2,484	48,313	1,080	...	...	41,572
Clearances	10,259	23,043	1,442	14,957	8,817	8,086	...	...

The fellings of green trees by the different agencies compare as follows :—

	1886-87.		1885-86.		Increase.		Decrease.	
Government.	No.	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.	No.	C. feet.
Selection	20,353	254,912	14,137	176,050	6,216	78,862	...	...
Thinnings	..	...	282	50	...	...	282	50
Clearances	1,061	4,647	14	32	1,047	4,615	...	..
Total ...	21,414	259,559	14,383	176,132	7,263	83,477	282	50
Contractors.								
Selection	18,863	303,008	18,856	269,018	...	33,990	1,998	...
Thinnings	3,317	6,247	652	39,785	2 665	...	...	33,538
Clearances	9,198	18,396	1,379	14,759	7,819	3,637	...	...
Total ...	29,378	327,651	20,887	323,562	10,484	37,627	1,998	33,538
Right-holders and grantees.								
Selection	16,012	89,887	10,493	76,798	5,519	13,089	...	...
Thinnings	247	494	1,600	8,478	...	...	1,353	7,984
Clearances	...	...	49	166	...	...	49	166
Total ...	16,259	90,381	12,142	85,442	5,519	13,089	1,402	8,150

The yield of the different descriptions of green timber compares as follows :—

	1886-87.		1885-86.		Increase.		Decrease.	
	No.	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.	No.	C. feet
Sál	10,585	186,413	11,654	197,312	...	...	1,069	10,899
Sain	1,869	66,913	1,678	71,054	191	...	...	4,141
Shisham	417	5,022	253	7,053	164	...	...	2,031
Tún	41	1,455	6	275	35	1,156	...	...
Haldu	436	53,406	796	38,884	...	14,522	358	...
Chír	8 295	205,782	6,799	121,475	1,496	84,307	...	...
Oak	1,775	26,707	1,100	28,195	675	...	...	1,488
Miscellaneous ...	43,681	131,915	25,124	120,888	18,507	11,027	...	...
Total ...	67,051	677,591	47,412	585,136	21,066	111,014	1,427	18,559

Fifty-four thousand nine hundred and fifty-three and 38,922 half dry sál tors and ballies (shown last year as green wood) equal to 36.205 and 38,481 cubic feet, respectively, have been transferred, in the Garhwál Division, to dry timber in each year.

There has been a general increase in the yield of every kind of produce; and noting the fact that the figures (Nos. 2 to 26) quoted give the yield after excluding the abnormally high unexported balances of timber converted in 1885-86 but removed to forest sale or revenue depôts and disposed of in 1886-87, the results of the season's working are satisfactory.

The fall off in the yield of green timber and the increase in the demand for dry timber is due to many causes, as the railways and merchants from the chief timber marts take most of the first and petty purchasers the latter. The green timber supplies to the Rajputana-Malwa Railway were less by 21,000 cubic feet, and in the Nandhaur working circle purchasers took fewer trees, owing to the competition for labour and carriage for the Government sleeper works. In Garhwál and the Ganges, the demand was steady; while in Jhánsi, Lalitpur and Bánda there was an increase owing to the Midland Railway works. For dry timber there was an increase in Kumaun, owing to the new reserves being opened up; a small decrease in Garhwál and an increase of 98,000 cubic feet in the Ganges, where the principal forests are now within 15 miles of the Oudh and Rohilkhand Railway, a fact which has undoubtedly stimulated the demand.

The increase in the issues of timber under free grants, or to right-holders, aggregating 25,320 cubic feet, value Rs. 15,038, is in part due to the large free grants made for Garhwál district works, *viz.*, 10,006 cubic feet against 1,208 cubic feet in the previous year and also to the large demands on the new reserves (late Iron Company's grant and under settlement) where the villagers drew supplies for the whole year instead of for five months as in 1885-86.

The outturn of fuel has increased in every division, which is satisfactory, as it is largely due to improved communications by rail, and should therefore in part be permanent.

The increase under bamboos is abnormal; it is probably due to short exports during the previous years, when restrictions as to cutting were first introduced; and it is understood the markets have now been overstocked.

Under minor produce and grazing the increase is in part due to the payment during the year of Rs. 13,000 for collections in the new reserves (late Iron Company's grant) made in 1885-86 by the Senior Assistant Commissioner of Kumaun, who, up to November, 1885, held charge of these forests, while the remainder is due to largely increased sales of limestone in the Kumaun Division, and to a general increase in other Divisions.

Departmental timber operations in Naini Tal and Kumaun have been finally closed; so that with the exception of the supply of fuel to the Commissariat in the Naini Tal Division, departmental works are confined to the Jhánsi, Lalitpur and Bánda Divisions.

The results of this change are notable in the return of the stock of produce held at the beginning and close of the year, which I give in abstract below :—

Division.	*Value of stock of timber, fuel, bamboos and minor produce on—*		Increase at close of year.	Decrease at close of year	Net decrease at close of year
	1st April, 1886.	31st March, 1887.			
	Rs.	Rs.	Rs.	Rs	Rs.
Naini Tal	9,333	1,347	...	7,986	...
Kumaun	1,881	530	...	791	...
Garhwál	...	...	...	...	...
Ganges	...	...	...	...	...
Jhansi	371	349	...	22	...
Lalitpur	1,109	1,162	53	...	...
Bánda	590	579	...	11	...
Total ...	13,724	3,967	53	8,810	8,757

At the close of the year arrangements were made for the sale of the balances in Naini Tal and Kumaun and the depôts have since been cleared.

75. I will now turn to the yield and working of the year as shown by the Code forms 53 to 55, where, as previously explained, the outturn of green timber differs from the figures in the abstract already given.

There is also a difference in the number of trees felled, because "clearances," which in the year under review include trees cut in clearing fire lines, or in land taken up for cultivation, are not entered in form 53, while they are entered in appendix A.

Under G. O. No. $\frac{279F}{660\text{-}2}$, dated 8th June, 1887, form 53 has been modified so as to include all trees and poles felled for sylvicultural reasons, whereas in former years mature trees felled by Government agency only were entered.

The outturn of the year as described above, contrasts as follows with that of 1885-86 :—

	1886-87.	1885-86.	Increase.	Decrease.
1. (Item 1 para. 74). Green trees felled ...	56,792	45,970	10,822	...
2. (Item 2 para. 74). Outturn of green timber and fuel, cubic feet.	654,548	570,179	84,369	...
3. Value of above Rs.	2,82,608	2,33,794	48,214	...
4. (Item 3 para. 74). Total outturn of timber including dry trees, cubic feet	874,185	668,211	185,974	...
5. (Item 4 para. 74) Value of above Rs.	3,47,424	2,73,219	74,205	...
6. (Item 5 para. 74) Outturn of green timber, cubic feet	540,210	436,034	104,176	...
7 (Item 6 para. 74). Value of above Rs	2,46,852	2,19,669	27,183	..
8. (Item 11 para. 74) Outturn of green timber by exporters, cubic feet	359,600	288,246	71,354	...
9. (Item 12 para. 74). Value of above Rs.	1,55,745	1,05,241	50,504	.

The number of green trees felled in 1885-86 is obtained by adding all fellings other than "by Government agency" and all thinnings made for sylvicultural reasons to the number (7,494) already shown in form 53 for that year. This readjustment is made to facilitate comparison.

The other figures in para. 74 either coincide with those in the Code forms, or are extracted from the divisional reports.

76. The different methods of comparing the yield and working of the year as regards timber contrast as follows —

		No
1.	Trees felled, including clearances	67,051
2.	„ „ excluding „	56,792
		c ft.
3	Yield of green and dry timber during the working season	866,611
4	Outturn of green and dry timber during the official year ...	874,185
5	Sales of green and dry timber during the official year	749,198
6	Free grants and right-holders' timber . ..	124 670
7.	Total of timber sales, and transfers to free grantees and right holders during official years (Nos. 5 and 6)	873,868

Those figures show that the yield in timber of the fellings, and of the collection of dry timber of the season were less in amount than the outturn brought to account during the official year, while owing to reductions in stock the actual sales and free grants of the official year exceed the yield of the season and are slightly less than the outturn of the year.

The preparation of the duplicate returns of yield (described above as yield and outturn) involves much additional labour, and it is a matter for consideration whether the contrast summarised as above is of sufficient value to necessitate their maintenance

77. It was recorded in para 74 (*d*) page 23 of last year's report that the method of converting various loads and also maunds of fuel and charcoal into cubic feet of wood varied without reason in different Divisions, and doubts have since arisen as to the general practice adopted in filling up form 54. I therefore note the system and practice adopted in this Circle

Form 54 is, as the Code directs, filled up from monthly forms 7, 10 and 12, and the entries in these forms are made as soon as the volume, &c., of the produce is ascertained.

The classification of fellings in columns 3, 4 and 5 is as follows:—

Selection fellings include all fellings of mature trees made for sylvicultural reasons, whether under permanent working plans or annual plans of operations.

Clearances include all cuttings not classed as selection fellings or thinnings (*e g*, in clearing fire lines, or land for cultivation) and all dry wood.

Thinnings include only regular thinnings under a working plan

In the removal, columns 7 to 10, the figures in column 7 agree with the receipts in forest or sale depôts and include all produce on the collection of which any A-I. *a*. charges have been incurred In columns 8 —10 the removals by purchasers, &c, agree with the disposals to purchasers for cash, or in compliance with the indents of grantees or right-holders.

The cube contents of timber are ascertained by measurement when brought on stock, sold, or transferred, save in the case of poles and saplings sold by the score, for which average cube contents are given.

For fuel and charcoal the following factors are used —

	lbs	Solid cubic feet
2-Buffalo cart load of fuel	960	24
2-Bullock ditto ditto ...	800	20
1 Buffalo load of fuel	240	6
1 Bullock ditto	180	4½
1 Pony ditto . , ...	180	4½
1 Donkey ditto ..	120	3
1 Bangby ditto	100	3½
1 Head ditto , ...	60	1½

Note.—A 3 or 4-buffalo or bullock cart-load is taken as 50 per cent and 100 per cent in excess of a cart drawn by two animals Charcoal is converted into cube feet of solid wood on the understanding that it takes 5 lbs of fuel to make 1lb of charcoal.

78.—Taking the yield and working of Divisions as detailed in the Code forms, the main facts are as follow ;—

Naini Tal Division.—Ten thousand eight hundred and seventy-seven trees were felled, or 236 more than in 1885-86. Government 5,040 against 1,254, purchasers 1,299 against 367. Free grants and rights, 4,538 to 7,187.

The Government fellings were mainly for Commissariat fuel; the increase by purchasers is due to the stoppage of departmental timber works.

Besides the above, 140 trees were cut on boundary lines.

By Government agency the removal of timber fell by 12,397 cubic feet to 2,269 cubic feet; of fuel by 5,390 cubic feet to 2,01,892 cubic feet: while the disposals to purchasers were, timber 23,805 cubic feet, or 15,080 cubic feet more; fuel 201,454 cubic feet, or 44,094 more; and to free grantees and right-holders 46,515 cubic feet timber, or less by 7,914 cubic feet. The 1,152 cubic feet of fuel under free grants were used in burning lime for boundary pillars. The demand by right-holders fluctuates, and there is no special reason for the decrease. Sales of minor forest produce and miscellaneous receipts rose by Rs. 2,417 to Rs. 6,280, owing to Mr. Braidwood's careful working of the forest.

Kumaun Division.—Six thousand and fifty-one trees and poles were felled, or 344 more than in 1885-86. Government, 1,293 for sleepers against 1,068. Purchasers, 2,044 against 2,726, owing to reduced demand in the Nandhaur working circle. Grantees and right-holders, 1,323 to 1,018. Under thinnings, 1,391 poles were cut against 895.

By Government agency, 22,500 metre gauge sleepers, cubing 33,750 cubic feet, were prepared and delivered at Achnera between December and March, against 17,639 cubic feet in the previous year. Mr. Bryant made excellent arrangements for the work and the season was propitious, so that all the sleepers were sawn and carted to the railway by the end of March. The cost per sleeper was Re. 1-4-7 and the net profit Re. 1-3-5, or about 13 annas a cubic foot.

The expenditure on the sleepers delivered from the Nandhaur working circle in 1885-86 and 1887 has been closed, and is as follows:—

	Rs	a.	p.
Sawing 42,491—6′×8″×4½″ @ 6 annas 3 pies	16,598	0	9
Carriage by cart 25 miles, average rate 5 annas 11½ pies ...	15,733	6	10
Carriage in forest, various rates	2,831	13	4
Establishment, &c., ...	786	5	4
Railway freight, 246 miles, 42,372 sleepers @ nearly 7 annas ...	18,476	2	10
Total ...	54,425	13	1

In 1885-86, 10,925 sleepers were (*vide* para. 88 of last year's report) delivered from Garhwál for Rs. 15,028.

The Rajputana-Malwa Railway sleeper contract for 50,000 sleepers at Rs. 2-8-0 delivered at Achnera has now been completed. Purchasers removed 207,637 cubic feet timber, or 16,897 cubic feet increase, which was chiefly from the new reserve (late Iron Company's grant).

Free grants, &c., of timber were as follows:—

Free grants—

	Trees.	Cubic feet.	Rs.
To His Highness the Nawab of Rampur, sál ...	200	11,192	9,932
„ Departmental works „ ...	32	1,608	804
„ „ „ haldu and miscellaneous ...	8	841	200
Total ...		13,641	10,936

against 9,461 cubic feet, Rs. 8,507, in 1885-86.

Right-holders—

	Trees.	Cubic feet.	Rs.
To villagers, sál	794	14,019	8,927
Ditto miscellaneous	576	5,756	1,604
Ditto (Tarai thatus) dry wood		19,867	4,987
Total ...		39,642	15,518

against 23,282 cubic feet, Rs. 8,199, in 1885-86.

The increase in grants is partly due to the inclusion of timber used for departmental works and in part to His Highness the Nawab having in 1885-86 surrendered part of his grant to obtain special trees to which he was not entitled

The timber under rights has increased, owing to the demand of Iron Company's grant villages having been met for a whole year instead of for five months as in 1885-86, and the rights not having been finally settled, there is no doubt in some cases inordinate demands were made, which the Department had not full power to reduce

Purchasers removed fuel 362,542 cubic feet, or 243,716 cubic feet more than in 1885-86, and as a good deal went by rail to Bareilly, there is reason to hope the increased demand is permanent.

The free grants of fuel were as follows —

Free grant—

			Rs	a	p.
His Highness the Nawab of Rampur—Fuel for charcoal, cubic feet	7,500	...	134	8	0
Right-holders—					
Fuel for the tharus (Tarai) cubic feet	80,172		860	0	0
Total ...	87,672		994	8	0

against 112,212 cubic feet, Rs. 1,275, in 1885-86.

N. B.—In last year's report the value was erroneously given as Rs 3,254

The sale of bamboos rose by 8,642 scores and Rs. 615 to 102,741 scores and Rs. 9,490, the increased export being from Talla Des Range.

The grazing dues fell by Rs. 4,154 to Rs. 7,836, owing to the whole dues for the Kumaun district having in 1885-86 been credited in Kumaun, whereas, this year, they are distributed between Kumaun and Garhwál

Minor forest produce and miscellaneous receipts rose by Rs. 21,338 to Rs. 32,411, of this sum Rs 13,000 was from an unforeseen payment of dues collected in 1885 86 in the Iron Company's grant prior to its transfer to the Forest Department, and the balance to increased exports, which will, it is hoped, be maintained.

The Nawab of Rampur drew 200 carts of limestone, value Rs. 400, under his free grant of produce.

Garhwál Division—Ten thousand nine hundred and sixty-seven trees were felled, or 217 more than in the previous year. Government agency, *nil*, against 885 last year for sleepers Purchasers, 7,157 against 7,209 Right and grant-holders (including Government 84) 3,726 against 2,656 The latter include—

	Sál	*Miscellaneous.*
1886-87	383	1 393
1885 86	1,357	1 299

No Government timber works were in progress

Purchasers removed 200,926 cubic feet timber, or 55,043 cubic feet more than in 1885-86. Free grants (including 1,554 cubic feet for departmental use and the balance to villages, temporarily settled) were 2,357 cubic feet, and right-holders drew 3,835 cubic feet against 9,704 cubic feet in the previous year. This decrease is in part due to small miscellaneous trees having been substituted for sál and to the fluctuation of the demand, which was most carefully checked by Mr Wilmot

The export of fuel by purchasers rose by 88,100 cubic feet to 191,804 cubic feet

Bamboo sales rose by 23,928 scores and Rs 2,973, to 256,076 scores and Rs 25,198 The demand was abnormal, and before the close of the year prices realized by cutters fell heavily, showing the market had been overloaded

Right-holders removed 210 scores, value Rs 25.

Grazing dues rose by Rs. 1,442 to Rs 2,877, owing to the Garhwál Division share of the Kumaun district dues being credited in the Division and not in Kumaun as in previous years.

Minor produce and miscellaneous receipts fell by Rs. 588 to Rs. 9,387, the decrease being under the head "drift-wood on the Ramganga."

Ganges Division.—Seven thousand six hundred and ninety-six trees were felled, or 5,652 more than in 1885-86.

Government, *nil*. Purchasers, 1,271 to 1,198. Right-holders and grantees, 6,425 to 856. There were no departmental works. Purchasers removed timber 182,956 cubic feet, or 31,102 cubic feet more than in 1885-86.

Free grants, &c., are as follows :—

	Cubic feet.	Rs.
Cattle-stations temporarily settled	... 8,343	354
District Engineer, Garhwál	... 10,006	2,571
Total	... 18,349	2,925
Right-holders	... 365	220
Grand Total	... 18,714	3,145

against 1,568 cubic feet in 1885-86. The District Engineer obtained the wood for large bridges near the forest boundary. The cattle-station demand always varies.

Purchasers removed fuel 362,247 cubic feet, or 4,716 cubic feet more than in the previous year.

The sale of bamboos rose by 234,883 scores and Rs. 21,244 to 654,286 scores, value Rs. 61,550. Free grants of 400 scores bamboos, value Rs. 40, were made to district works and cattle-stations.

Grazing dues realized Rs. 5,088, or Rs. 2,440 less than in 1885-86, when, as noted, the Bhábar and other grass sales were erroneously credited to this head (II.*d.*).

Minor produce and other receipts brought in Rs. 6,612, or Rs. 594 more than in the previous year.

Jhánsi Division.—One thousand seven hundred and twenty-nine trees were felled, or an increase of 17.

Government, 1,016 against 886. Purchasers, 713 against 226.

By Government agency, 3,048 cubic feet of timber against 1,014 cubic feet were removed to depôt. Purchasers removed 2,139 cubic feet against 696 cubic feet.

Fuel collected by Government agency amounted to 1,781 cubic feet against 2,550 cubic feet 10,176 cubic feet; against 7,152 cubic feet were disposed of to purchasers; and 1,071 cubic feet against *nil* to free grantees.

The sale of bamboos was 1,960 scores, value Rs. 638, or 870 scores and Rs. 363 increase.

Grazing realized Rs. 4,283 or Rs. 1,418 in excess of previous year, the increase is chiefly in the sales of the fodder reserves ("Runds").

Sales of minor produce and other receipts amounted to Rs. 1,759, or Rs. 732 increase.

Under minor produce, fruits, &c., there are increased sales, aggregating Rs. 1,113; under other sub-heads a decrease.

The increased demand for fuel, grass, and minor produce is attributed to the Midland Railway Works.

Lalitpur Division.—Five thousand nine hundred and twenty trees were felled and 2,173 poles cut in thinnings, or an increase of 2,189.

By Government agency 5,323 trees against 3,505, and by purchasers 59 trees and 2,173 poles against 2,399 poles.

By Government agency 10,023 cubic feet of timber were taken to depôt, increase 4,517 cubic feet. Purchasers removed 5,204 cubic feet, increase 2,356 cubic feet. No timber was given to grantees or right-holders against 920 cubic feet in 1885-86.

The outturn of fuel by Government agency was 13,100 cubic feet against none in the previous year; by purchasers 50,780 cubic feet, increase 10,800 cubic feet. No fuel was given to right or grant-holders against 4,500 cubic feet in the previous year.

Bamboos were sold by Government agency 27,517 scores, value Rs. 4,001, or 7,901 scores fewer bamboos, for Rs. 201 increase in price. Purchasers, 12,791 scores, value Rs. 880, or 6,090 scores, value Rs. 470, increase. No bamboos were given to right or grant-holders against 31 scores, value Rs. 2, in 1885-86.

Grazing realized Rs. 2,293, increase Rs. 210. Minor produce, &c., Rs. 2,153, increase Rs. 394.

The increased exports in Lalitpur are also attributable to the Midland Railway works.

Bánda Division.—Eleven thousand three hundred and seventy-nine trees were felled, or a decrease of 25 trees.

(Besides the above 8,946 trees were cut in clearing part of the boundary line.)

By Government, 7,597 against 6,643, and by purchasers, 3,782 against 4,761.

Timber removed by Government agency amounted to 28,229 cubic feet, increase 4,523 cubic feet, by purchasers, 21,497 cubic feet, increase 15,133 cubic feet.

No timber was given free.

Fuel removed by Government agency amounted to 54 cubic feet, by purchasers to 56,839 cubic feet, increase 34,547 cubic feet; free grants *nil*.

Bamboos removed by Government agency, 1,896 scores, value Rs. 442, increase 600 scores, value Rs. 273; by purchasers, 1,659 scores, value Rs. 269, increase 840 scores, value Rs. 62.

The grazing dues amounted to Rs. 936, decrease Rs. 37.

Sale of minor produce and other receipts amounted to Rs. 3,681, the increase, Rs. 1,336, being on account of sale of fruits, &c.

Minor produce in Bánda is sold annually by auction, village by village, and, at the close of the year, a sum of Rs. 576-0-3 was due from purchasers, which will appear in the accounts for 1887-88.

The increase in the outturn of the Bánda forests is attributable to the improved system of management introduced and the interest taken in forest administration by Mr. Smith, Collector of Bánda, and Mr. Porter, Joint Magistrate of Karwi (in whose immediate charge the forests were included).

79. In dealing with the yield of the year as shown by the Code forms and appendices A and B, it is impossible to describe fully the portion of the yeild utilized by right-holders. Forms 54 and 55 and the appendices only deal with produce brought to account, and outturn, such as dry fuel, grazing and minor produce removed or utilized by right-holders, the amount of which can generally only be estimated, is not entered.

About 498 square miles or 27 per cent. of the forests in the Circle are open to rights, so that the question, apart from the influence of rights on forest management, is one of great importance when the yield and revenue of the forests are treated of.

At the suggestion of the Inspector-General of Forests an attempt has been made to estimate the total outturn and value of rights, and the table below gives the result.

The timber given under rights or grants is quoted from form 54, and, where available, minor produce from form 55; in other cases an estimate has been framed and the value at prevailing rates is given.

Name of grantee.	Description of produce.	Nainí Tal Division.		Kumaun Division.		Garhwal Division.		Ganges Division.		Jhánsi Division.		Lalitpur Division.		Bánda Division.		Total of each class of produce.	
		Amount.	Value.	Amount.	Value.	Amount.	Value.	Amount.	Value.	Amount.	Value	Amount	Value	Amount.	Value.	Amount.	Value.
		C. ft.	Rs.	C. ft	Rs	C. ft.	Rs.	C. ft.	Rs	C. ft.	Rs.	C. ft.	Rs	C. ft.	Rs.	C. ft	Rs
Right holders ...	I.—Timber	37,559	3,404	39,653	15 054	3,835	749	265	220	...	...	...	...	...	..	81,412	19,427
	II —Firewood	...	...	8,35,066	8,500	3,78,955	3,946	1,80,675	1,882	...	52	..	...	5,800	84	14,00,196	14,464
	III —Minor forest produce, such as bamboos, bark, fruit, and limestone.	...	486	...	10,612	...	5,745	...	2,580	...	263	...	...	...	450	..	24,148
	IV —Grass, grazing, and leaf fodder ..	...	12,217	...	11,220	...	10,762	...	3,108	...	...	...	152	...	490	...	37,849
	V —Branches, leaves, and vegetable mould for manure	...	81	...	...	...	...	...	...	...	...	...	...	...	...	...	81
	Total ...	37,559	16,200	8,75,319	45,386	3 82,690	21,242	1 81,040	7,790	.	315	..	152	5,800	924	14,81,608	91,979
Concessions by grant of Local Government.	I.—Timber	...	...	11 192	9,932	...	...	...	...	...	...		...	...	...	11,192	(i) 9,932 (ii) 134 (iii) 400 *a.*
	II —Firewood	...	...	7,500	134	...	...	..	...	...	...	...	...	...	...	7,500	
	III.—Minor forest produce, such as bamboos, bark, fruit, and limestone	...	...	8,000	400	...	..	..	...	...	...	...	...	...	.	8,000	
	IV —Grass grazing, and leaf fodder ..	...	.	..	...	...	...	...	...	...	...	..	...	...	...	...	...
	V.—Branches, leaves, and vegetable mould for manure	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	..		26,692	10,466	..	...	...		...	...		...	...	.	26 692	10,466
Free grants under executive order.	I —Timber	8 952	1,137	2,400	802	2,357	606	18,349	2,965	..	.	...	..	...	...	32,066	5,510
	II.—Firewood	1,152	35	...	...	...	...	...	..	1,071	29	...	...	...	. .	2,223	55
	III —Minor forest produce, such as bamboos, bark, fruit and limestone.	...	...	...	...	...	...	...	40	...	7	...	...	...	...	...	47
	IV —Grass, grazing, and leaf fodder	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...
	V —Branches, leaves, and vegetable mould for manure.	...	...	...	...	...	. .	...	...	...	...	...	...	...	...	...	. .
	Total ...	10,104	1,172	2,40	802	2 357	606	18,349	3,005	1,071	22	..	...	.		34,289	5,612
	Grand Total .	47,663	17, 72	9,04 419	56,654	3,85,047	21 808	1,99,389	10,795	1,071	342	...	152	13,000	1,154	15,49,589	1 08,057

(*A.*)—Timber, (i) Firewood, (ii) and (iii) limestone, given to His Highness the Nawab of Rampore.

ABSTRACT FOR THE CIRCLE.

Description of produce	To Right-holders.		Under concessions granted by Local Government.		By free grants under executive orders.		Total of each kind of produce	
	Amount.	Value.	Amount.	Value.	Amount.	Value.	Amount.	Value.
I —Timber	81,412	19,427	11,192	9,932	32,066	5,510	1,24,670	34,869
II.—Firewood	14,00,196	14,464	7,500	134	2,223	55	14,09,919	14 653
III.—Minor forest produce, such as bamboos, bark, fruit and limestone ..	...	20,148	8,000	400	...	47	20,595	
IV.—Grass, grazing, and leaf fodder	...	37,859	...	...	..	...	...	37,859
V.—Branches, leaves, and vegetable mould for manure	...	81	...	..	...	...	...	81
Grand Total	14,81,608	91,979	26,692	10,466	34,289	5,612	15,45,089	1,08,057

(*B.*)—The value of these 8,000 c. ft of limestone is estimated to be Rs 400, see under Kumaun Division.

From these figures, which are known to be under the mark, it will be seen that, taking the average revenue in cash at Rs. 5,09,793, the rights and free grants valued as above have formed 21 per cent. of the total revenue, a sum, as regards Kumaun and Garhwál, in excess, it is believed, of the sum paid as land revenue by right-holders.

These figures too refer only to protected forests, the reserves, and Búnda forests and not to rights in other unclassed State forests or waste lands.

CHAPTER V.

FINANCIAL RESULTS.

80. Forest Code forms 57 to 62, submitted herewith, give the above in detail.

81. The receipts, expenditure and surplus of the past four years compare as follows :—

	1883-84.	1884-85.	1885-86	1886-87.
	Rs.	Rs.	Rs.	Rs.
Receipts	5,24,380	4,83,737	4,43,133	5,78,023
Expenditure	2,55,592	2,01,912	2,64,479	2,77,117
Surplus	2,68,788	2,81,825	1,78,654	3,00,906
Percentage of expenditure to receipts ...	49·76	54·55	59·93	47·97

The revised estimate figures for the year were—

			Rs.
Revenue	5,33,000	actuals more by	45,023
Expenditure	2,88,000	,, less ,,	10,883
Surplus	2,45,000	,, more ,,	55,906

The excess in receipts is due to 6,700 sleepers, value Rs. 19,020, being delivered in addition to the number anticipated, also to fine weather in March and a brisk export facilitating the realization of the 1886-87 collection.

* *Vide* Conservator's No. 15, dated 6th May, 1887, to Secretary to Government, North-Western Provinces and Oudh, Financial Department.

The short expenditure is owing to intelligence of the extra grant of Rs. 6,000 made by the Government of * India not being received before the year's accounts were closed; it would otherwise have been fully utilized.

The figures for the past two quadrennial periods during which the Circle has been constituted as at present (the loss of the Tehri forests being balanced by the addition of the Iron Company's grant) compare as follows :—

	Average annual receipts and charges, 1879-80 to 1882-83.	Average annual receipts and charges, 1883-84 to 1886-87.
	Rs.	Rs.
Receipts	4,35,812	5,09,793
Expenditure	2,71,562	2,67,350
Surplus	1,64,250	2,42,443
Percentage of expenditure to receipts	62·28	52·55

I give these figures as I think the averages, as opposed to the annual figures, which are so liable from temporary causes to sharp rises and falls, show most clearly how the forest revenue has steadily risen, while the possibility of contracting departmental timber works has led to a decrease in charges.

Departmental works, it is now generally allowed, should only be undertaken when local circumstances discourage a fair export by private agencies, or when pecial works demand more exact execution than purchasers are able or willing to scarry out.

In all cases it is important to reduce departmental agency charges to a reasonable minimum, and the figures quoted above show the success attained in connection with the reduction of charges in this Circle.

82 The receipts and expenditure of the year in each Division compare as follows with the figures of 1885-86 —

Division	Receipts		Difference		Expenditure.		Difference	
	1886-87.	1885-86	More	Less	1886-87.	1885-86.	More.	Less.
	Rs	Rs.	Rs	Rs	Rs	Rs	Rs	Rs
Direction ...		...		...	24,283	24 611	.	328
Naini Tal ...	63,087	49,100	13,987	..	43,102	44,599		1,497
Kumaun ...	2,04,902	1,24,987	79,915		86,910	52,435	34,475	.
Garhwál ..	1,52,586	1,46 825	5,761	.	69 616	85,918	.	16,302
Ganges	1,29 764	1,01 440	28,324	...	40,175	44,342	. ...	4,167
Jhánsi	7,784	6,406	1,378	...	2,880	3 305	...	425
Lalitpur ..	12,498	9 387	3,111	...	6,419	5,539	880	...
Bánda .	7,402	4,988	2 414	...	3,732	3,730	2	...
Total ..	5,78,023	4,43,133	1,34,890	...	2,77,117	2,64,479	35,357	22,719

The net increase in receipts is Rs. 1,34,890, and in expenditure Rs. 12,638.

Of the increased receipts (as noted in paragraph 77 of the last report) about Rs 48,000 should be credited to 1885-86, when bad weather in February and March delayed the export of produce in the Kumaun, Garhwál and the Ganges Divisions until after the year had closed

Of the increase in charges in Kumaun, Rs. 26,200 is due to the cost of sleepers, Rs. 3,200 to extraordinary charges for the forest settlement of the late Kumaun Iron Company's grant (including establishment, Rs 2,064) and the balance to works of improvement for the development of these important forests.

The decrease in Garhwál expenditure follows the completion of the sleeper works, and in the Ganges, to reduced charges during the year on roads.

83 The receipts, charges, and surplus in each division are —

Division	Receipts	Charges.	Surplus	Deficit.	Percentage of charges on receipts	
					1886 87.	1885-86
	Rs	Rs.	Rs.	Rs	Rs	Rs.
Direction	..	24,283	...	24,283	...	
Naini Tal	63,087	43,102	19,985	...	68 3	98 3
Kumaun ..	2,04 902	86,910	1,17,992	...	42 4	41 1
Garhwál ...	1,52,586	69 616	82,970		45 6	58·5
Ganges . ..	1,29,764	40,175	89,589		30 9	43 7
Jhánsi	7,784	2,880	4,904	...	37·1	51 6
Lalitpur	12,498	6,4 9	6 079		51 3	59 0
Bánda	7,402	3,732	3,670	..	50 4	74 7
Total ..	5,78,023	2,77,116	3,25,189	24,283	47 97	59 93

The results are most satisfactory and reflect great credit on all Divisional Officers for the great care taken in keeping charges as low as is compatible with efficiency, and for the judicious steps taken to enhance the revenue.

Messrs. Braidwood and Bryant's management of the finances of Naini Tal and Kumaun call for special notice.

84. Arranged under main heads, the receipts and charges of the year compare as follows with those of 1885-86 :—

	Receipts.					Charges.				
	Amount.		Difference in 1885-86		Budget heads.	Amount.		Difference in 1886-87.		Budget heads.
	1886-87.	1885-86.	Increase	Decrease.		1886-87.	1885-86.	Increase	Decrease	
	Rs.	Rs	Rs.	Rs.		Rs.	Rs	Rs.	Rs.	
I.—Department al operations.	1,39,967	1,32,256	7,711	...	I.	83,709	86,709	...	2,998	Debits varied to suit each Division. *Vide* form 62.
II —Other heads of revenue.	4,48,056	3,90,877	1,27,179	...	II, III, IV and V.	92,920	90,147	2,773	...	
III.—Formation, protection and improvement of forests.	...	...	...	...	...	1,00,495	87,632	12,863	...	
Totals ...	5,78,023	4,43,133	1,34,890	...		2,77,117	2,64,479	15,636	2,998	

The surpluses on works compare as follows :—

	1886-87.	1885-86.	Increase.
	Rs.	Rs	Rs.
Departmental agency ...	46,265	35,556	10,709
By purchasers ...	3,55,136	2,30,730	1,24,406

The figures regarding departmental operations are vitiated by the fact that, owing to the delivery of sleepers being accelerated, charges in the Kumaun Division aggregating Rs. 8,108 on account of sleepers delivered in 1886-87 have been paid from the 1887-88 budget where funds had been provided.

More correct figures would be—

	Receipts.	Charges.
	Rs.	Rs.
1886-87—Departmental agency	1,39,967	82,227
By purchasers	4,00,056	92,920

Here the real payments and receipts for the year are shown as opposed to actuals of account.

The increased charges for the formation, protection and improvement of forests are distributed as follows :—

Divisions.	Amount.		Difference in 1886-87.	
	1886-87	1885-86	Increase.	Decrease.
	Rs.	Rs	Rs.	Rs.
Naini Tal	11,135	10,371	764	...
Kumaun	22,880	16,775	6,105	...
Garhwal	41,624	33,234	8,390	...
Ganges	19,495	21,312	...	1,967
Jhánsi	1,501	1,721	...	220
Lalitpur	2,201	2,208	...	7
Bánda	1,749	2,011	...	262
Total ...	1,00,495	87,632	15,259	2,396

Excluding the extraordinary charges for forest settlement already referred to in Kumaun, the increases in that Division and Naini Tal are due to the extension of protection from fire and road works; in Gárhwál to additional roads and a forward debit for repairs, in the Ganges, there has been increased expenditure on fire protection, but a decrease in roads; in the other Divisions the charges are stationary.

85. The year's receipts and charges by budget heads compare as follows with 1885-86 :—

Receipts.

Year.	I. Timber and other produce removed from the forests by Government agency.	II. Timber and other produce removed from the forests by purchasers.	III. Confiscated drift and waif wood.	IV. Revenue from forests not managed by Government.	V. Miscellaneous receipts.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.
1886-87	1,39,967	4,39,533	1,129	...	7,394	5,78,023
1885-86	1,22,256	3,12,269	1,458	...	7,150	4 43,133
Difference in 1886-87 { More ...	7,711	1,27,264	...	...	244	1,34,890
Difference in 1886-87 { Less ...	...	...	329	...	...	...

Expenditure.

A.—(*Conservancy and Works.*)

Year.	I. Timber and other produce removed from forests by Government agency.	II. Timber and other produce removed from forests by consumers or purchasers.	III. Confiscated drift and waif wood.	IV. Revenue from forests not managed by Government agency.	V. Rent of leased forests and payment to share holders.	VI. Live-stock, stores, tools and plant.	VII. Communications and buildings.	VIII. Improvement and extension of forests.	IX. Miscellaneous.	X. Total.
	Rs.	Rs.	Rs.		Rs	Rs.	Rs.	Rs.	Rs.	Rs.
1886-87 ...	59 558	23 864	...	...	704	12,076	34,832	28,710	718	1,60,462
1885-86 ...	52,044	21,867	1	...	953	9,096	37,658	24,609	2,675	1,48,903
Difference 1886-87 { More ...	7,514	1,997	...	...	...	2,980	...	4,101	...	11,559
Difference 1886-87 { Less ...	...	...	1	...	249	...	2,826	...	1,957	...

B.—(*Establishments*).

Year.	I. Salaries.	II. Travelling allowances.	III. Contingencies.	Total.
	Rs.	Rs.	Rs.	Rs.
1886-87	1,00,493	11,243	4,919	1,16,655
1885-86	99,383	11,422	4,771	1,15,576
Difference 1886-87 ... { More ...	1,110	...	148	1,079
Difference 1886-87 ... { Less ...	...	179	...	...

86. The value of timber and other produce in sale depôts, and of live and dead stock in the Circle is shown in form 57, the totals compare as follows :—

	Rs.
Value on 1st April, 1886	1,13,234
,, 31st March, 1887	1,09,155
Balance against the year	4,079

Turning to the details, there was a decrease in the value of timber, &c., of Rs. 8,757 as explained in para. 74 and an increase of Rs. 4,678 in value of live and dead stock, owing to the erection of new buildings and to the purchase of tools and plant.

The outstandings due to the Department were Rs. 3,544 against Rs. 8,813 in 1885-86.

There were no outstandings in accounts due from the department.

The balance of uncollected revenue was Rs. 576 in Bánda, against Rs. 385 in Jhánsi and Bánda in 1885-86.

The value of the year's transactions stands :—

	Rs.
Cash surplus	3,00,906
Deduct difference in value of stock	4,079
	2,96,827
Add outstandings due to the Department	3,544
Cash value of transactions 1886-87	3,00,371
,, ,, 1885-86 ... — ...	1,79,647

87. The main variations in the receipts and expenditure are accounted for as follows :—

Receipts.—

Timber, &c., by Government agency.—The net increase is from sale of more fuel in Naini Tal (Rs. 6,134) and to increased sales in Jhánsi, Bánda and Lalitpur.

In Kumaun, the sleeper operations being concentrated in that Division, the receipts were nearly doubled. Garhwal and Ganges Divisions show no transactions, against Rs. 37,562 in the previous year.

Timber, &c., by purchasers.—Increase already explained.

Sales of drift wood have fallen owing to reduced receipts on the Ramganga river.

Expenditure.—"A. Conservancy and Works." Government agency, timber, &c.—The increase is mainly in Kumaun, where against Rs. 10,087 in 1885-86 the following payments were made :—

	Rs.
For sleeper works, 1885-86	9,585
,, ,, 1886-87	26,653
	36,238

Naini Tal, Garhwál and the Ganges Divisions spent Rs. 20,474 against Rs. 40,043 in 1885-86, works being contracted or closed.

In Jhánsi, Lalitpur and Bánda there was an expenditure of Rs. 2,838 compared with Rs. 1,971 the results (as shown by form 6*i*) were good.

Exports by purchasers.—There is a small general increase in Naini Tal and Lalitpur, owing to establishments ; in the other Divisions, on account of temporary roads and petty charges.

Payments to shareholders in Government forests in Bánda fell, owing to the reduction in net profits (on which the payment is made) in 1885-86.

The increase under charges for live and dead stock were mainly under tools, in which the purchase of khukris and axes for the establishment formed the largest item.

The increase under roads, buildings and works of improvement has been explained in Chapter III.

Under establishments, increase in "salaries" is due to officiating promotion among superior officers, the other charges show small variations.

C. BAGSHAWE,
Offg. Conservator, Central Circle.

NAINI TAL ;
The 7th July, 1887.

APPENDIX F.

Results of the fire conservancy operations of 1887.

1. The fire conservancy operations of the last four years compare as follows —

Year.	Area in which protection attempted.	Failures	Area actually protected	Cost of the year	Cost. Per acre attempted.	Cost. Per acre protected.	Percentage of area attempted to total area of the forests.	Percentage of failures to area attempted.
	Acres.	Acres.	Acres.	Rs	Pies.	Pies.		
1884	266,915	10,058	256,857	18 091	13·01	13 52	26·52	3 76
1885	256,895	531	256,364	15,966	11 04	11 95	25·57	·20
1886	(1) 285,687	270	285,417	18,224	12 25	12·26	24·89	·09
1887	312,398	22,964	289,434	16,672	10 68	11 19	29 13	7 35

N. B. (1).—This figure includes 22,400 acres part of the proposed reserve (late Iron Company's grant) shown in 1886, in remarks column of form 51.

The figures for the past two years show—

Increase in 1887 in percentage of total forest area in which protection was attempted	4 84%
Increase in 1887 in percentage of total forest area in which protection was successful	2 47%
	Acres.
Increase in area attempted	26,711
Ditto protected	4,017
	Rs.
Decrease in charges	1,352
Increase in percentage of failures	7·26%

The areas attempted in the hill and plains forests compare as follows : —

	1887 Acres.	1886. Acres.	Increase. Acres.
Hill forests	57,443	57,443	...
Plains forests	2,54,955	2,28,244	26,711

The cost of protection varies as follows :—

	1887. Pies.	1886. Pies.	Increase. Pies.	Decrease. Pies.
Cost per acre attempted	10 52	12 24	...	1·72
Ditto protected	11·10	12 26	...	1 16
Cost per acre of hill forests attempted,	2 31	1 61	·70	...
Ditto ditto protected ..	2·76	1 60	1 16	...
Ditto plains forests attempted,	12 62	14 92	...	2 30
Ditto ditto protected ...	12 86	14 93	...	2 07

The dry season of 1887 has been a prolonged and trying one in the hills, owing to light winter rains and the absence of showers in May. As a rule, the May showers render the hill forests more or less safe by the end of May, and extensive fires late in the season are consequently rare. This year the hill forests were highly inflammable until the middle of June, and the results have been disastrous.

In the plains forests the season has been an ordinary one, and the failures recorded are attributed to local shortcomings rather than the season.

2. The cost per acre of fire conservancy in the Central Circle has been the subject of comment, and to explain how the expenditure is incurred, the following abstract has been prepared for the three main Divisions.

Division.	Area under fire conservancy, 1886-87.				Fire lines maintained.										Fire watchers.		Miscellaneous charges.	Total cost, 1886-87, columns 15, 17 and 18.	Averages.						Comparative cost of different tracts				Percentage of failures to area attempted.
	Attempted.		Protected.		Exterior lines.				Interior lines.				Total length all lines.	Total cost all lines.					Cost per acre attempted.	Cost per acre protected.	Length of line per square mile attempted.	Cost of line per square mile attempted.	Number of fire watchers per square mile attempted.	Cost of fire watchers per square mile attempted.	Area attempted at maximum cost in Division.		Area attempted at minimum cost in Division.		
	Acres.	Square miles.	Acres.	Square miles.	Length.	Average width.	Cost, 1886-87.	Average cost per mile.	Length.	Average width.	Cost, 1886-87.	Average rate per mile.			Number.	Cost, 1886-87.									Name.	Cost per acre.	Name.	Cost per acre.	
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
					Ms.	F.	Rs.	Rs.	Ms.	F.	Rs.	Rs.	Ms.	Rs.	No.	Rs.	Rs.	Rs.	Pies.	Pies.	Ms.	Rs	No.	Rs.		Pies.		Pies.	
Kumaun ...	39,052	61	38,212	59	147	40	2,179	15	30	50	809	17	177	2,687	53	769	129	3,585	17 61	18·00	3	44	·37	12·60	Salani ..	40 2	Lakhmanmandi	5 95	2·15
Garhwál ...	188,682	295	184,684	289	174	50	3,638	21	235	60	4,831	20	409	8,467	142	2,722	199	11,388	11 58	11 63	1½	29	·48	9·23	South Patli Dún	28 8	Shishamkhata,	10·1	2·12
Ganges ...	23,989	37	15,342	24	94	10	497	5	9	12	52	6	103	549	27	402	109	1,060	8·40	13·26	2½	15	·73	10·86	Jogidhaur ...	17·21	Gwalgarh ...	3·11	36 94
Total ...	251,723	393	238,238	372	415	33	6,312	14	274	41	5,392	14	689	11,703	222	3,893	434	16,031	12·23	12 91	1½	30	·56	9·9	...	...	...	...	5·26

The varying cost of exterior lines depends on the growth of grass and the shape and position of the forest, and, save by the enlargement of tracts, no great change in charges is possible.

The variations in the mileage, &c., of interior lines depend on the geographical features of the forests; thus in the south Patli Dún (Garhwál) the water channels do not form natural interior lines, while the heavy crop of grass and former experience forbid our risking large blocks of forest with few or no interior lines at which to stop a fire, and consequently the forest has been cut up into sections by artificial lines maintained at low annual rates, but which in the aggregate raise the cost of protection to 2 annas 5 pies per acre.

In Shishamkhata (Garhwál) after some years of success the interior lines were reduced, and the cost has been 10 pies per mile, but the results have not been encouraging, as when two fires occurred in 1884 and 1887, they were not extinguished until 200 and 826 acres had been burnt, and an additional interior line isolating the most dangerous part of the forest is now being made, which will slightly raise the cost per acre.

In the north Patli Dún (Garhwál) where water channels enter largely into the system of interior lines, the cost per acre is 10½ pies and a reduction in charges is anticipated.

To take examples in the Ganges.

The rate for Jogichafir is exceptionally high, owing to the large grassy areas in the vicinity which have to be burnt.

In Gwalgarh the cost of protection is low, *viz.*, 4 pies per acre, because a cheap system was tried by burning an outer line without making any expensive path, while a water channel was adopted as an interior line. The results have not been encouraging, but the system is worthy of trial.

The number of fire watchers depends on the length of road which it is necessary to patrol in consequence of traffic through the forest, and the number of men it is prudent to maintain in forests which are far removed from villages whence labour to extinguish a fire can be obtained.

In Kumaun and the Ganges, the number maintained is about the normal figure. In the eastern forests of Garhwál the numerous rights of way involve an abnormal amount of patrolling, and no reduction is advisable. In the western forests a slight reduction is possible now fire conservancy is well-established.

In connection with this record of fire conservancy charges, there is one item that is misleading. In the Central Circle it has been the custom to charge to fire conservancy all paths made on fire lines.

In the course of time these paths, besides serving for general inspection, have been largely used for export. In some cases they have been transferred to the head of roads, but a large number are still charged to fire lines, and the charges under this head in Kumaun and Garhwál are increased by about 8 per cent. in consequence.

Steps have been taken to transfer all paths used for general purposes to the head of roads, and thus bring the Central Circle fire conservancy charges, apart from special circumstances, in a line with the charges in other forests.

To epitomise. The present cost of fire conservancy is mainly due to local circumstances. As fire conservancy is established and extended, some diminution in exterior line charges will be possible. Only small reductions in interior lines and patrolling charges are advisable, but a substantial decrease in the debits to fire conservancy will follow the transfer of paths to "Roads" (A-VII. *a*.).

During the year the area under protection has been perceptibly increased and the question of further extension is receiving careful attention.

3. Turning to the records of each division, the following notes embrace the main features of the year's work :—

Naini Tal Division—						*Acres.*
Area attempted	...	...	...	...	...	57,443
Failures	...	...	...	...	...	9,479
Area protected	...	...	...	...	...	47,964
					1887.	1886.
Percentage of area of Division attempted				...	80·54	80·54
Ditto of failures	...	...	...	...	16·50	0 21
Cost of area attempted—Pies	...	...	...	...	2 31	1·60
Ditto protected	„	...	...	...	2·76	1·61

Fifty-one fires occurred, as follows :—

Naini Tal—

(1).—*4th January*, 1887.—Compartment 42, N.-W. C., 35 acres, caused by a Bhutia grazier leaving a fire alight; the man was punished.

(2)—*17th February*, 1887.—Compartment 86, acres 8.
Ditto.— *Ditto* 92 „ 37.

Believed to have been caused by road coolies leaving a fire alight; case tried but dismissed.

(3).—*20th, 21st and 27th April*, 1887.—Tit block 2,150 acres. On 20th and 21st—Lit by a villager on 20th, who was caught in the act and punished; fire of 21st an extension of first fire. That on 27th believed to have been lit by villagers, but no case was proved.

(4).—*25th April.*—Dedhura block, acres 5. Due to carelessness of charcoal burners; contractor punished.

(5).—*15th May*, 1887.—Compartment 89, acres 58.
Cause unknown.

(6).—*16th May*, 1887.—Compartment 82, acres 7.
Believed to have been fired accidentally by a private servant.

(7).—*18th May*, 1887.—Compartment 82*a*, acres 100.
Cause unknown.

(8).—*19th May*, 1887.—Compartment 92, acres 38.
„ 92*a*, „ 57.
Cause unknown.

(9).—*22nd May*, 1887.—Mangoli block, 610 acres. Fire crossed from the Kumaun Division unprotected forest.

Ránikhet.—Reserve blocks I, II and III; 12 small areas, each ½ to 1½ acres, were burnt in August, September, October and December, and April. Soldiers were seen in the vicinity and are believed to have caused the fires, but no one was arrested.

Reserve block III, C. 3; 10 acres, 16th February, 1887, caused by the descent of a Jubilee fire balloon.

Reserve block I, C. 11; 9 acres, 20th May, 1887. Fire lit by accident spread from the standing camp.

Reserve blocks II, III and IV and East Chaubattia protected forest; acres 4,700, 21st to 24th. This fire or succession of fires started in the Cantonment forests on the 20th, when it was put out by forest officials, but was again lighted, it is believed maliciously, on 21st. When the Deputy Conservator was trying to put out the fire in Cantonments on 21st, the wind carried a blazing branch a distance of about 20 chains over a ravine and fire line into the reserve, and in a few minutes a large area was blazing; three times the fire was apparently extinguished, but it broke out again. In one instance there is little doubt the forest was wilfully re-fired in block IV, about 10 chains below a road, as a forest contractor, shortly before the fire was seen, had come along this road and reported all safe.

The fires were not finally extinguished until the 24th, when the reserve, except block I, acres 912, and 130 acres of block II and East Chaubattia protected forest, except 55 acres, had been burnt over.

The fires in Cantonments are still the subject of enquiry, and a reward has been offered for any information as to the suspected incendiaries in the reserve.

The Deputy Conservator reports that the Ranger and all the establishment worked splendidly; but that the high wind and the dry state of the forest baffled their efforts.

It is impossible until the end of the rains to estimate the amount of damage done by these fires; but it is very extensive, though many of the areas planted up have suffered less than was expected. The subject will be taken up in next year's annual report under the head natural reproduction, and the results of examination be carefully noted.

Meanwhile arrangements, in conjunction with the military authorities, who are most willing to afford aid, are being made as to future fire conservancy, both within Cantonments and in the other Government forests.

Chilianau protected forest.—Whole area burnt on 20th and 21st May; eight villagers were accused of firing the forest, but the evidence was insufficient to admit of the case being taken up. There is little doubt the fire was wilfully or accidentally lit by the villagers.

Karchuli protected forest.—Whole area, 24th and 25th May. Originated in the village of Walna; no one was arrested in connection with the fire, which was probably accidental.

Ganiadeoli protected forest.—Compartment 3, 22 acres, 19th May, 1887; believed to have been fired by soldiers.

Compartment 8, 4 acres burnt, 21st May, 1887. According to the Forest Guard, the fire spread from Tarah village; according to the headman, from a fire in the cart, road drain.

Compartment 9, 11 acres, 24th May, 1887. Villagers of Pathuli suspected, but no charge proved.

Compartment 7, 19 acres, 27th May, 1887.

Ditto 10, 6 acres, ditto.

The fire spread from village lands, but no arrests were made.

Padholi protected forest.—Three hundred twenty acres, 24th to 31st May. Five fires occurred; four lighted on the edge of village lands, and one spreading from Cantonments. Full enquiries were made, but no evidence obtained justifying any arrests.

West Chaubattia protected forest.—Compartment 1, acres 3½, 28th April, 1887; lit by two *children*, who were warned and dismissed.

Compartments 5, 4, 3, 2 and 1, 221 acres burnt in four fires between the 20th and 24th of May, 1887. All the fires originated in village lands, but no arrests were made.

Kathalekh forests.—Compartment 1, acres 16, 12th May, 1887. Fire spread from fire lighted at a cave in forest to smoke out a leopard; five men fined, one acquitted.

Compartment 1, acres 45, and compartment 2, acres 18, 27th May, 1887.

The fire came from village lands, the villagers gave no assistance in extinguishing it, and a case against them is still pending.

Compartment 7, acres 3, 27th May, 1887, a man charged with wilfully firing the forest was arrested, but acquitted.

Siuni.—Compartment 2, acres 10, 15th November, 1886.—Origin unknown.

Compartments 31, 32, acres 6, 15th December, 1886. Supposed to have been lit on a path by travellers.

Compartment 4, acres 8, February 8th, 1887. Supposed to have been lit by travellers.

Compartment 5, acres 7, 12th March, 1887. Cause unknown.

Compartments 8 and 10, acres 4, March 29th, 1887. Burnt while firing fire lines.

Compartment 25, acres 3, May 16th, 1887. Spread from rubbish fired in fields; one man punished.

Compartment 25, acre 1, May 29th. Spread from fields; the men punished.

Siun protected forest.—Compartment 6, acre 1, March 24th, 1887—Spread from village lands; man arrested, warned and released.

Compartment 6, acres 4, 22nd April, 1887. Fire spread from village lands.

Compartment 6, acres 74, May 14th, 1887. Spread into forest from village lands; man arrested and convicted.

In the Ránikhet protected forests fair protection has hitherto been insured by clearing lines on the outer boundary without burning away from the line; fires that broke out outside the boundary being stopped within the village area or on the line; but the abnormal dryness of the season has this year shown this cheap system to be insufficient, and the question of extra paths and broader lines is under consideration.

In the protected forests in which no special measures were adopted, the establishment being directed to keep out fires as best they could with the aid of the villagers, 7,882 acres out of 10,451 acres were burnt, or only 2,569 acres saved against 7,422 acres in 1886. It is proposed to start regular fire conservancy in about half of this area next season, as it is now necessary to burn charcoal for Ránikhet in these forests.

4. **Kumaun Division**—

		1887.	1886.
		Acres.	Acres.
Area attempted	...	39,052	23,041
Ditto protected	...	38,212	23,041
Failures	...	840	...
Percentage of area of Division attempted	...	11·40%	6·44%
Ditto of failures	...	2·15	n/l
Cost per acre attempted	...	17·61	18 51
„ protected	...	18·00	18 51

Five fires occurred as follows :—

Range Chaubainsi—

(1) 2nd April, 1887. Nandhaur, 20 acres; fired by Gothias who camped off the proper camping ground.

(2) 21st April, 1887—Lakhmanmandi, 120 acres. This forest is open to graziers and the fire was probably accidentally lit by them.

Talla Des Range—

(3) 10th February, 1887. Jaunla sál, 240 acres.—Grass lands formerly preserved, were by accident burnt in line burning.

(4) 25th April, 1887.—Jaunla sál, 400 acres.—Caused by Dotial coolies lighting a fire to drive off a solitary elephant.

(5) 14th May, 1887. Deoligadh, 60 acres.—Caused by four men trying to smoke out a porcupine.

Compensation was taken for Nos. 2 and 5, and in No. 4 the men were successfully prosecuted.

The Deputy Conservator speaks in high terms of the forest subordinates, both for their general execution of their duties and in extinguishing fires under trying circumstances.

5. **Garhwál Division—**

		Acres.	Acres.
Area attempted...	...	188,662	
Increase ...	...	1,340	
Failures ...	...	3 998	
Area protected ...	...	184,664	
		1887.	1886.
Percentage of Division attempted	...	59%	58%
Ditto failures	...	2·12%	0·06%
Cost per acre attempted	...	11·58	15·15
Ditto protected	...	11·64	14·62

Nine fires occurred as follows :—

(1) Kotah block 1, compartment 1, acres 6, February, 1887. Said to have been accidentally fired by soldiers.

(2) Kotah block 1, compartment 1, acres 6, February, 1887. Owing to the contractor (who was punished) burning the line with an insufficient gang of men in the absence of the Forester.

(3) Kotah block 1, compartment 2, acres 5, February, 1887. Cause unknown.

(4) Chilkia Melani block IV, compartment 1, acres 15 and compartment 13, & acres 9.

(5) February, 1887. Same cause as No. 2; and contractors were punished.

(6) Shishamkhata, acres 826, March 4th, 1887. After careful enquiry the cause could not be ascertained; it was not during line burning, but was probably accidentally fired by a workman.

(7) Garhibulchand, acres 48, March 20th, 1887. Probably fired by some carters who were collecting grass near; but the evidence was insufficient.

(8) Rehar, 3,073 acres, 21st March, 1887. The fire was blown into the reserve from adjacent private forests. The Ranger, who had clear orders to burn the outer forest clean, was to blame for this fire; and in consequence of this failure to obey orders and other misconduct he was reduced.

(9) Chilkia Gugti, 10 acres, April, 1887. Cause unknown.

6. **Ganges Division—**

		Acres.	
Area attempted ...	...	23,929	
Increase ...	...	9,350	
Failures ...	...	8,647	
		1887.	1886.
Percentage of Division attempted ...	...	10·75	6 55
Percentage of failures ...	...	36·04	0·02
Cost per acre attempted ...	...	pies 8·40	14·62
Ditto protected ,, ...	...	13 26	14 65

Four fires occurred.

GANGES WORKING CIRCLE.

(1) Andher Majhera, 40 acres, 5th March, 1887. Fire entered forest (when the lines were being burnt) owing to a sudden gust of wind.

(2) Gwalgarh, 3,085 acres, 22nd April, 1887. Fire from the unprotected forest crossed the outer line. The Forester had recently burnt the outer line and forest imperfectly and proposed reburning, but left the forest for other work without taking sufficient precautions. When the fire entered, the difficulties in going over bad ground and high wind prevented his doing more than saving the next block, which had been successfully protected for four years.

(3) Hazara, 60 acres, 13th May. Lighted by an ignorant Nepaulese traveller to drive off an elephant ; he was not punished.

(4) Kunaun, 5,462 acres, 14th May, 1887.—The Deputy Conservator's enquiry proved that the forest was wilfully fired in four places simultaneously by villagers. The villagers had previously claimed, but without any grounds, a *right* to graze in Kunaun ; and their conduct is now the subject of enquiry by the District Officer. Fortunately both the Kunaun and Gwalgarh blocks were only taken up this year, so no abnormal damage ensued. Mr. Brereton's fire conservancy arrangements this year were carefully worked out and supervised, while the charges were considerably reduced. The failures in the Ganges Division are due to the unfounded animosity of the villagers and to disobedience of orders by a subordinate; as it was, the area protected was increased, and there is every reason to hope next year success will be attained in the newly taken-up areas.

7. **In the Kumaun, Garhwál and Ganges Divisions,** except the Chausila sál forests (4 sq. miles), no tracts of any considerable area not under protection escaped from fire.

8. **Jhánsi Division—**

Area attempted	1,483 Acres.	
Failures	...	
	1887.	1886.
Percentage of Division attempted	6·28	6·28
Ditto of failures	...	...
Cost per acre attempted and protected ... pies	6·47	6·47

There were no fires.

In the unprotected forests no considerable areas were unburnt.

9. **Lalitpur Division—**

Area attempted	1,749 Acres.	
Failures	...	
	1887.	1886.
Percentage of division attempted	1·89	1 89
Cost per acre attempted and protected ... pies	10·97	10·97

There were no fires.

In the unprotected forest no considerable area escaped from fire.

10. **In the Bánda Division** there is, as yet, no regular protection, but about one-fourth of the forests are saved from fire.

11. The following summary shows the fires which occurred during the last four years :—

Year.	*Maliciously lighted inside the forests.*		*By workmen by accident.*		*By villagers or travellers, or soldiers by accident.*		*By establishment when burning fire traces.*		*Fires which crossed the fire traces from outside forests*		*Fires caused by lightning or fire balloons.*		*Cause unknown.*		Total number of fires.	Total area burnt.
	Number of fires.	Area burnt.	Number of fires	Area burnt	Number of fires.	Area burnt.	Number of fires.	Area burnt.	Number of fires.	Area burnt.	Number of fires.	Area burnt.	Number of fires.	Area burnt.		
		Acres.		Acres.		Acres.		Acres.		Acres.		Acres.		Acres	Acres	Acres.
1887 ...	4	7,707	5	80	47	7,717	8	284	3	6,766	1	10	7	886	70	22,964
1886 ...	1	17	2	42	1	8	6	196	...	...	...	...	...	...	10	270
1885 ...	5	215	...	...	5	156	1	160	...	...	...	...	...	...	11	53
1884 ...	7	1,015	...	...	4	776	5	4,061	1	10	1	4,196	...	...	18	10,058

NAINI TAL ;
The 14th July, 1887.

C BAGSHAWE,
Offg. Conservator of Forests Central Circle, N.-W. P. and Oudh.

ANNUAL STATEMENTS.

ANNUAL FORM No. 49.—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Area of reserved forests, including proposed new reserves (late Iron Company's grant) 1886-87.

Division or Range.	Civil District or Territory.	Name of Forest	*Area on 1st April*, 1886. Area.	*Area on 1st April*, 1886. Equivalent in square miles.	*Added during the year.* Acres.	*Excluded or transferred to other heads.* Acres.	*Area on 31st March*, 1887. Acres.	*Area on 31st March*, 1887. Equivalent in square miles	Number and date of Notification of addition or transfer.	Remarks.
Naini Tal Division.	Kumaun district ...	Naini Tal (proposed reserves, late Iron Company's grant) ...	22,400	35	...	...	22,400	35	...	Areas subject to correction.
		Block XI.—Ránikhet ...	4,480	7	...	...	4,480	7	...	
		Total ...	26,880	42	...	...	26,880	42	..	
Kumaun Division...	Kumaun district ..	Proposed blocks. I—Dabka	62,080	97	...	...	62,080	97	...	
		Proposed blocks. II.—Dechauri ...								
		Proposed blocks. III.—Fatehpur ...								
		Late Iron Company's grant.								
		Block No. IV.—Chhakata ...	65,606	103	...	...	65,606	103	...	The areas are subject to correction
		Ditto V.—Horai ...	8,960	14	...	...	8,960	14	...	
		Ditto VI.—Chaubhainsi ...	147,520	230	...	...	147,520	230	...	
		Ditto VII.—Jaula Sál ...	43,520	68	...	...	43,520	68	.	
		Ditto VIII.—Kalonia ...	4,320	7	...	...	4,320	7	...	
		Ditto IX.—Chini ...	4,640	7	...	...	4,640	7	...	
		Ditto X.—Sarda Islands .	5,440	8	...	...	5,440	8	...	
		Ditto XI.—Chandani ...	320	1	..	...	320	1	..	
		Total ...	342,406	535	..	.	342,406	535	.	
Garhwál Division,	Garhwál district ...	Block No. I—Palain ...	24,640	38	...	...	24,640	38	.	Ditto
		Ditto II.—Patli Dun ...	152,000	238	...	...	1,52,000	238	...	
		Ditto III—Kartia ..	800	1	...	...	800	1	...	
	Kumaun do. ..	Ditto IV.—Chilkia ...	80,467	126	...	...	80,467	126	...	
		Ditto V.—Kotah ...	35,200	55	...	...	35,200	55	...	
		Ditto VI—Garhibulchand .	10,937	17	...	...	10,937	17	...	
	Bijnor do. ...	Ditto VII.—Rehar .	15,719	25	...	...	15,719	25	...	
		Total ...	319,763	500	...	...	319,763	500	...	

Ganges Division ..	Garhwál district ...	Block No. I.—Kotri Dún ...	...	90,880	142	...	...	90,880	142	...	The areas are subject to correction.	
		Ditto II.—Udepur ...	...	34,240	54	...	...	34,240	54			acres sq mls.
	(a) Garhwál and Bijnor districts.	Ditto III.—Gori ...	...	98,059	153	...	...	98,059	153		(a) Garhwál district, acres,	56320=88
											Bijnor, ...	41,739=65
		Total	...	223,179	349	...	...	223,179	349		Total ...	98,059153
Jhánsi Division...	Jhánsi district ...	Jhánsi	...	(a)10,096	16	...	...	10,096	16	(a) Given up to the Indian Midland Railway, G. O. No. 151 W R., dated 28th January, 1886.		
		Mau	...	6,035	9	...	...	6,035	9			
		Garotha	...	5,127	8	...	...	5,127	8			
		Moth	...	2,272	4	...	(b)1 2-21	2,270	4			
		Total	...	23,530	37	...	1-2-21	23,528	37			
Lalitpur Division ..	Lalitpur district ...	Lalitpur	...	190	...	...	...	190	...	(a)(b, Taken up by the Indian Midland Railway, G O. Nos. 60F/563-6, dated 13th December, 1886, and 39F/563-13, dated 21st January, 1887.		
		Bansi	...	4,733	7	...	...	4,667	7			
		Talbehat	...	9,290	15	...	...	9,290	15			
		Balabehat	...	30,186	47	...	(b)13	30,173	47			
		Banpur	...	4,745	7	...	...	4,745	7			
		Maroni	...	1,283	2	...	...	1,283	2			
		Maraura	...	39,415	62	...	...	39,415	62			
		Total	...	89,842	140	...	79	89,763	140			
		GRAND TOTAL	...	10 25,600	1,603	...	81	10,25,519	1,603			

DATED NAINI TAL;
The 7th July, 1887.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle.

ANNUAL FORM No. 49.—[PRESCRIBED.]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of protected forests, 1886-87.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April, 1886. Acres.	Area on 1st April, 1886. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March, 1887. Acres.	Area on 31st March, 1887. Equivalent in square miles.	No. and date of Notification of addition or transfer.	Remarks.
Naini Tal Subdivision.	Kumaun district.	Block I.—Naini Tal ...	22,711	36	192*	...	22,903	36	G. O. No 136F. 519-13, dated 31st March, 1887.	* Received in exchange for Block II, transferred to the Naini Tal Municipality. Area shown last year in form No. 49 as 193 acres corrected this year to 193 acres.
		" II.—Ayarpatha ...	192			192				
		Total ...	22,903	36	192	192	22,903	36		
Ránikhet Subdivision.	Kumaun district.	Block I.—Machor ...	211	...	...	...	211	...	...	The areas are subject to correction.
		" II.—Bhatronj ...	5,760	9	...	...	5,760	9		
		" III.—Siuni ...	4,480	7	...	...	4,480	7		
		" IV.—Siun ...	640	1	...	...	640	1		
		" V.—Bellekh ...	640	1	...	...	640	1		
		" VI.—Kathalikekh ...	1,920	3	...	...	1,920	3		
		" VII.—Ganiadeoli ...	1,280	2	...	...	1,280	2		
		" VIII.—Karchuli ...	203	...	...	...	203	...		
		" IX.—Chilianao ...	640	1	...	...	640	1		
		" X.—Chaubattia ...	1,280	2	...	...	1,280	2		
		" XII.—Padholi ...	640	1	...	...	640	1		
		" XIII.—Dwarson ...	1,920	3	...	...	1,920	3		
		" XV—Siahi Devi ...	1,920	3	...	...	1,920	3		
		Total ...	21,534	33	...	...	21,534	33		
Lalitpur Division...	Lalitpur district.	Lalitpur	65	...	...	...	65	...		
		Talbehat	2,362	4	...	...	2,362	4		
		Total ...	2,427	4	...	...	2,427	4		
		GRAND TOTAL ...	46,864	73	192	192	46,864	73		

DATED NAINI TAL;
The 7th July, 1887.

C. BAGSHAWE,
Offg Conservator of Forests, Central Circle

ANNUAL FORM No. 49 —[PRESCRIBED]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of Bánda Forests, 1886-87, (*Unclassed State Forests*).

Division or Range.	Civil District or Territory	Name of Forest	*Area on 1st April*, 1886.		*Added during the year.*	*Excluded or transferred to other heads.*	*Area 31st March*, 1887		No and date of Notification of addition or transfer	Remarks
			Acres	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles		
		I—Rampur Kalánpur								
		1 Mau ..	385 53	..		..	385 53			
		2 Unchadih ...	413 88	..		..	413 88	...		
		3. Sakrawan	644 80	..	...	...	644 80			
		4 Rampur Kalánpur	2,697 84		...	..	2,697 84	.		
		5 Mamaniya or Katauta Mamniyá	2,250 24		.		2,250 24			
Barda .	Bánda district,	6 Gadurha .	221 66	..		.	221 66			
		7 Uldan	714 02	...	...		714 02	...		
		8 Rajuhan	4,618 80			...	4 6 8 80	...		
		9 Deori	4 273 31	..		..	4 273 31	...		
		*10 Nihi ..	2,109 61	...		..	2,109 61	.		
		*11. Maholi ..	945 76		..	.	945·76	...		
		*12 Kalánpur	2,670 66				2 670 66	.		
		Total ..	21,949 11	34		...	21,949 11	34		
		II.—Chauri Donda								
		*13 Karauhan	726 43	..		...	726 43	..		
		*14 Sikapur Chitghati	69 43				69 43			
		15 Jaro or Jaro muafi ...	1,139 94	..	...	...	1,139 94	...		
Ditto ..	Ditto ..	16 Chauri ..	4,036 70	..		.	4 036 70	...		
		*17 Chulha	1,502 38		...	..	1,502 38			
		18 Parasan or Kulmar Parasan,	3,623·30	..	..	...	3,623 30	..		
		19 Donda ...	5,4 6 14		.		5,4 6 14			
		Total ..	16,516 32	26	...		16,516 32	26		
		III—Manikpur								
		20 Chulhi ...	1,621 32		...	...	1,621 32			
		*21 Mahal Balkushn of Chulhi village	26 25	.	...	..	26 25	...		
		*22 Mahal Mukhramgir of Chulhi village	13 00	...	...	.	13 00	.		
Ditto ..	Ditto ..	23 Amuha	2,242 77	...	...	...	2,242 77	...		
		24 Karkapadri or Pandria	730 93	.	...	.	730·93	...		
		25 Chheriha Kalan ...	1 237·83		.	...	1,937 83	..		
		26 Amchornarwa .	4,216 66	...	...	..	4,216 66	.		
		27 Rukma Khurd	132 62	...	..	...	132·62	..		
		28 Area outside Forest line ...	716 00		...	...	716·00			
		Total ...	10 937·98	17	..		10 .87 98	17		
		Carried over ...	49,403 41	77	...	...	49 403 41	77		

ANNUAL FORM No. 49.—[PRESCRIBED.]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of Bánda Forests, 1886-87, (*Unclassed State Forests*).

Division or Range.	Civil District or Territory.	Name of Forests. *	Area on 1st April, 1886. Acres.	Area on 1st April, 1886. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March, 1887. Acres.	Area on 31st March, 1887. Equivalent in square miles.	No. and date of Notification of addition or transfer.	Remarks.
		Brought forward ...	49,403·41	77	...	...	49,403·41	77		
		IV.—Tikaria.								
Bánda ...	Bánda district,	*29. Bhenda or Bhera ...	777 98	...	...	...	777 96	...		
		*30. Dadri muáfi ...	4,697·00	...	...	...	4,697·00	...		
		*31. Tikaria Jamanhai ...	2,892·39	...	...	...	2,892·39	...		
		*32. Gursarai ...	908 43	...	...	...	908 43	...		
		*33. Rukma Buzurg ...	1,978·21	...	...	...	1,978·21	...		
		*34. Marian Panwari or Mandayan Panwari.	1,885·68	...	...	...	1,885·68	...		
		Total ...	13,139·67	21	..	...	13,139·67	21		
		V.—Matdar.								
Ditto ...	Ditto ...	35. Matdar	6,729·10	10	...	...	6,729 10	10		
		Total ...	6,729·10	10	...	...	6,729·10	10		
		VI.—Koluwa.								
Ditto ...	Ditto ...	36. Koluwa	6,182·00	10	...	...	6,182·00	10		
		Total ...	6, 82·00	10	..	..	6,182·00	10		
		GRAND TOTAL ...	75,454 18	118	...	...	75,454·18	118		

* Village areas administered under the $\frac{55}{45}$ arrangement.

		acres.
Total area, Government villages	... ...	54,245·99
Ditto $\frac{55}{45}$ "	... ...	21,208·19
	Total area ...	75,454·18 = 118 square miles.

DATED NAINI TAL;
The 7th July, 1887.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle.

ANNUAL FORM No 50.—[Prescribed.]

Forest Department, North-Western Provinces and Oudh, Central Circle.

Prosecutions for breaches of Forest Rules during 1886-87.

Forest Division and Civil District.	Cases pending from 1885-86.	New cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		*Convictions.*		*Acquittals.*		*Total*		
								Cases.	Persons.	Cases	Persons	Cases.	Persons.	
Naini Tal Division.								Tried by Divisional Officer.						
Kumaun district.														
Naini Tal sub-division	...	4	44	...	16	64	64	31	41	31	72	64	113	...
Ránikhet sub division	...		5	...	1	6	6	2	3	4	4	6	7	.
								Tried by Cantonment Magistrate, Ránikhet						
Ránikhet sub-division	...	...	10	1	28	39	39	29	53	10	23	39	76	..
Total ...	...	4	59	1	45	109	109	64	97	45	99	109	196	...
Kumaun Division.								Tried by District Officer.						
Kumaun district	...	...	1	...	1	2	2	1	1	1	1	2	2	...
Garhwál Division.								Tried by District Officer.						
Garhwál district	...	..	..	....	1	1	1	...	...	...	...	...	...	1 case 13 persons.
								Tried by Divisional Officer.						
Kumaun district	...	...	1	..	...	1	1	1	4	..	...	1	4	...
Total ...	...	...	1		1	2	2	1	4	...	...	1	4	...
Ganges Division.								Tried by District Officer, Saháranpur.						
Saháranpur district	1	...	...	...	...	...	1	1	1	...	...	1	1	...
Bijnor district	2	...	...	...	1	1	3	...	...	1	1	1	1	2
Garhwál district	1	...	1	...	..	1	2	...	...	1	2	1	2	1
Total ...	4	...	1	...	1	2	6	1	1	2	3	3	4	3
Jhánsi Division														
Jhánsi district	...	...	7	...	...	7	7	7	25	...	...	7	25	...
Lalitpur Division.														
Lalitpur district	...	...	5	...	...	5	5	5	8	...	...	5	8	...
Grand Total ...	4	4	74	1	48	127	131	79	136	48	103	127	239	4

Naini Tal,
Dated the 7th July, 1887.

C. BAGSHAWE,
Offg Conservator of Forest, Central Circle.

ANNUAL FORM No. 51.—[PRESCRIBED.]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of Forest Tracts protected from fire during the dry season, 1887,—to accompany report for 1886-87.

Division.	Forest tracts.	Year in which protection commenced.	Area actually protected up to 30th June, 1886.	*During dry season of 1887.* Area attempted to be protected.	Failures	Actually protected.	Cost during the season.	Remarks.
							Rs.	
Naini Tal	Block I—Naini Tal protected forest	1876 ...	19,091	(1) 19,380	340	19,040	385	(1) Includes Lirya Kanta forest transferred from Naini Tal Municipality.
	Block II ditto ditto ...	...	(2) 193	...	...	...	...	(2) Ayarpatha block transferred to Naini Tal Municipality.
	Proposed reserve (late Iron Company's grant) ...	1886 ...	(3) 22,400	22,400	2,765	19,635	95	(3) Shown last year in remarks column only.
	Total ...		41,684	41,780	3,105	38,675	380	
Naini Tal-Bánikhet sub-division.	Bánikhet reserve	1874 ...	4,800	4,800	3,767	1,033	87	
	Padholi protected forest ...	1882 ...	640	640	3 0	320	24	
	Chaubattia	1882 ...	1,280	1,280	1,185	95	11	
	Chilliano	1884 ...	613	640	640	...	11	
	Karchuli	1885 ...	201	203	203	...	5	
	Ganiadeoli	1878 ...	1,180	1,340	62	1,218	36	
	Katchalleki	1878 ...	1,692	1 700	79	1 621	50	
	Siun	1880 ...	4,480	4 480	39	4,441	72	
	Sun	1885 ...	610	640	79	561	15	
	Total ...		15,634	15,663	6 375	9,289	311	
	Total Naini Tal Division ...		57,322	57,443	9,479	47,964	691	
Kumaun	*Chaubaisi Range.*							
	1. Horal	1876 ...	2,741	2,741	...	2,741	363	
	2. Nandhaur	1882 ...	10,107	20,807	20	20,787	1,703	
	3. Lakman Mandi ...	1883 ...	2,000	2,000	110	1,890	62	
	Talla Des Range.							
	4. Jamla Sál	1876 ...	7,873	7,873	640	7,233	783	
	5. Deolgadh	1867 ...	...	5,811	60	5,251	593	
	6. Salani	1876 ...	320	320	...	320	67	
	Temporary protection in proposed new reserve ...	...	...	...	...	...	7	
	Total ...	...	23,041	39,052	840	38,212	3,581	

Garhwál ...	Garhwál district.	Shisham khata (part of the Palain Forest Block No I)	1877 ...	2,020	2,020	826	1,194	304	In addition to the expenditure charged in the column of cost, Rs 766-3-6 was paid for 2" reductions of the 4" maps (to be used for recording fire conservancy and other operations) and charged separately under head A-VIII. e.
		North Pathi Dún (part of Pathi Dún Forest Block No. II) ...	1878 ...	50,783	52 128	...	5?,128	2 85?	
		South Pathi Dún (ditto ditto) ..	1873 ..	45,631	45,631	...	45,631	2,405	
	Kumaun district.	Chilkia (part of Chilkia Forest Block No IV) ...	1872 ...	46,136	46,240	34	46 206	2,658	
		Kotah (part of Kotah Forest Block No V) ...	1877 ...	23,2?9	23,298	17	23,281	1,301	
		Garhbulkhand (part of Garhbulehaud Forest Block No VI)	1877 ...	7,112	7,112	48	7,964	549	
	Pilibhit district.	Behar (part of Behar Forest Block No. VII) .. .	1881 ...	12,938	12 258	3,079	9,185	1,325	
		Total ...	-	187,229	184 6?2	3,?98	184 684	11 3?8	
		Gori Range.							
		Kunaun	1887 ..	...	5,462	5,462	...	147	In addition to the expenditure shown in the column of cost, Rs. 149-.3 6 was paid for 2" reductions of the 4" maps (to be used for recording fire-conservancy and other operations) and charged separately under head A-VIII e.
		Kaurua		2, 69	2,169	...	2,169	90	
		Andhermajhera	1881 ...	1,411	1,411	40	1,371	116	
		Jogighur		.56	781	...	781	70	
		Hazara		1,175	1,175	60	1,115	97	
Ganges		*Udepur range.*							
		Gwalgarh	1887 ...	...	3,085	3,085	...	80	
		Sukrao	1882 ...	1,101	1,101	...	1,101	87	
		Kotri Range.							
		Dabina	1886 ...	7,981	8 805	...	8 805	433	
		Total ..		14,593	15 969	8,647	15,?42	1,068	
Jhánsi		Sukwan	1874 ...	728	728	...	728	2?	
		Dukwan		755	755	...	765	25	
		Total ...	-	1,483	1,481		1,483	50	
Lalitpur		Deogarh	1875 ...	998	998	..	998	100	
		Garauli		751	751	...	751		
		Total ...		1,749	1,749		1 749	100	
		GRAND TOTAL ...	...	285,617	312,398	22,964	289,434	16,872	

NOTE.—All the areas in the Kumaun and Garhwál districts are subject to revision on the publication of the 4" map sheets still due from the Forest Survey.

NAINI TAL;
Dated the 7th May, 1887.

C BAGSHAWE,
Offg. Conservator of Forests, Central Circle

ANNUAL FORM No. 52.- [PRESCRIBED.]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of Plantations, 1886-87.

Division.	Name of Plantation.	AREA IN ACRES.				Receipts— Charges—		Remarks.
		On 1st April, 1886.	Added during the year.	Excluded during the year.	Area on 31st March, 1887	of the year.		
						Rs.	Rs.	
Naini Tal Division.	*Regular Plantations.*							
Rânikhet sub-division,	Rânikhet nursery	50	...	...	50	943	1,750	
	Total ...	50	...	...	50	943	1,750	
	Cultural operations							
Naini Tal ...	Ayarpatha	5	...	5	...	...	...	Forest transferred to Municipality.
	Jabar	147	...	...	147	...	1	
	China	77	...	...	77	...	35	
	Kahla	35	...	...	35	...	2	
	Various other plantations imperfectly stocked or success uncertain.	...	...	...	...	...	83	
Rânikhet sub-division,	Jakhdeo (Upper)							
	Ditto (Lower)							
	Garkhet							
	Jainoli							
	Darm Khet	367	...	...	367	...	120	Area approximate.
	Ghingara Khal							
	Various other plantations imperfectly stocked, incomplete or success uncertain.							
	Total ...	631	...	5	626	...	241	
Kumaun ...	Haldwani and Chorgalia	...	...	...	...	...	99	Planting trees in office and depôt compounds.

		Kotah Range							
Garhwál	...	Chopra plantation	20	5	...	25	...	163	
		Petty cultural operations, Ramnagar, Mohan, Dhikala,	...	...	...	...	...	160	
		Total ...	20	5	...	25	...	323	
Ganges	..	Haldukhata	1½	...		1½	...	20	Mangoe groves for camping grounds
		Chila	½	...	...	½	...	58	
		Saneb	3	...		3	...	3	
		Total ...	5	...	...	5		111	
Jhánsi	...	Sukhwan and Dukhwan							
		Babina							
		Magarpur							
		Ganapura	687	2	2	687	...	286	Shisham plantations
		Kheri							
		Bhasneo, &c.							
		Total ...	687	2	2	687	...	*286	*Expenditure under A VIII*d* and A VIII*f*
Lalitpur	..	Kuchnowda	20	5	..	25	...	100	Teak plantations
Banda	..	Matdar	...	...	...	...	...		Teak failed
		Mamaniya	..	...	...	..	...		Ditto 3 trees came up
		Chhinlaha	...	...	...	...	...		Teak
		Ditto	...	...	...	...	...		Sal
		Chauri	..	...	...	...	...	9	Teak failed entirely
		Ditto	..	...	...	...	...		Sál
		Ka uha		...	...	...	...		Teak 20 trees came up
		Ditto	..	...	...	...	...		Shisham, 1 tree came up
		Total ...		..	..		...	9	
		GRAND TOTAL OF CULTURAL OPERATIONS ...	1 363	12	7	1,368		1,1[illegible]	
		Add for regular plantations	50	...	...	50	943	1,7[illegible](a)	(a) Total expenditure under A VIII*d* as per form No 58, and Rs 30 in Jhansi under A VIII*f*
		GRAND TOTAL ...	1,413	12	7	1,418	943	2 920	

NAINI TAL
Dated the 7th July, 1887

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N. W. P and Oudh.

ANNUAL FORM No. 53.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Trees felled or girdled by Government agency, by purchasers, or by right-holders or grantees during 1886-87. *Selection fellings and thinnings.*

Division.	Description of trees.	*Selection fellings.*				*Thinnings.*				Grand Total.
		Government agency.	Purchasers.	Right-holders	Total.	Government agency.	Purchasers.	Right holders.	Total.	
Naini Tal ...	Chír	3 803	742	3,681	8,226	...	...	...	...	8,226
	Oak	1,079	38	608	1,725	...	...	...	...	1,725
	Sál	...	1	...	1	...	...	...	...	1
	Tún	...	1	1	2	...	...	...	...	2
	Miscellaneous	159	517	247	923	...	...	...	...	923
	Total	5,040	1,299	4,538	10,877	...	...	...	...	10,877
Kumaun ...	Sal	1,285	373	747	2,405	...	1,103	247	1,350	3,755
	Sain	...	502	...	502	...	...	...	...	502
	Shisham	...	309	4	313	...	...	...	...	313
	Tún	...	39	...	39	...	...	...	...	39
	Haldú	8	330	...	338	...	...	...	...	338
	Chír	...	...	...	...	...	...	...	...	...
	Miscellaneous	...	491	572	1,063	...	41	...	41	1,104
	Total	1,293	2,044	1,323	4,660	...	1,144	247	1,391	6,051

Garhwál	Sál			41	5,211	333	5,587					5,587
	Hain			13	704		717					717
	Saldú			7			7					7
	Miscellaneous			21	1,242	3,393	4,656					4,656
	Total			84	7,157	3,726	10,967					10,967
Gauges	Sál				24	45	69					69
	Sain				584	66	650					650
	Shisham				104		104					104
	Haldú				93		93					93
	Miscellaneous				466	6,314	6,780					6,780
	Total				1,271	6,425	7,696					7,696
Jhánsi	Miscellaneous			1,016	713		1,729					1,729
Lalitpur	Ditto			5,323	597		5,920		2,173		2,173	8,093
Báuda	Ditto			7,597	3,782		11,379					11,379
	Grand Total			20,353	16,868	16 012	53,228		3,317	247	3,564	56,792

Abstract.

	No.
Sál	9,418
Sain	1,869
Shisham	417
Tún	41
Haldú	498
Chír	9,226
Oak	1,725
Miscellaneous	34,664
Grand Total	56,792

Naini Tal ;
Dated the 7th July 1887

C. BAGSHAWE,
Offg. Conservator of Forests N.-W. P. and Oudh, Central Circle.

ANNUAL FORM No 54.—[PRESCRIBED]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Outturn of Timber and Firewood during the year* 1886-87.

Division	Description of materials	Outturn in cubic feet								Remarks.
		Selection fellings	Clearances	Thinnings	Total	Removed by— Government agency	Purchasers.	Free grantees.	Right-holders.	
	I—Reserved Forest									
Naini Tal	Timber*	4,136	...	...	4,136	...	2,898	670	770	*Includes Chir Oak and Miscellaneous
	Firewood	38,930	82,447	...	121,377	3,877	81,447	1,152	...	
	Total ..	43,266	82,447	...	125,713	36,778	84,345	1,822	770	
	II—Protected Forest.									
	Timber	68,251	...	...	68,251	2,271	20,909	8,282	36,789	
	Firewood	1,28,168	1,54,953	...	283,121	1,63,114	120,007	...	...	
	Total .	1,96,419	1,54,953	...	351,372	165,385	140,916	8,282	36,789	
	GRAND TOTAL ...	2,39,685	2,37,400	...	47°,085	204,163	225,259	10,104	37,559	

	I.—Reserved Forest										
Kumaun	Sál green	...	...	92,531	2,746	2,590	97,867	33,750	37,128	1,608	25,181
	„ dry	...	...	...	50,617	...	50,617	...	50,130	...	487
	Haldu green	..	...	33,036	..	...	33,036	...	32,276	860	..
	„ dry	...	...	...	2,377	...	2,377	...	2,377	...	...
	Sam green	...	...	20,971	..	...	20,971	...	20,971	...	...
	„ dry	...	...	...	160	...	160	...	160	...	...
	Shisham green	...	...	3,058	..	...	3,058	...	3,022	...	36
	„ dry	...	...	...	23,649	...	23,649	...	12,111	...	11,438
	Tún green	...	...	1,350	...	...	1,350	...	1,350	...	...
	„ dry	...	...	.	1,483	...	1,483	...	1,483	...	...
	Sandan green	...	...	461	...	...	461	...	..	...	461
	„ dry	...	...	.	237	...	237	...	237	...	...
	Miscellaneous green	...	...	45,409	..	41	45,450	...	40,150	...	5,300
	„ dry	...	...	...	14,024	...	14,024	* ...	6,982	...	7,542
		Timber	...	197,216	94,793	2,631	294,640	33,75	307,637	2,468	58,845
		Firewood	...	...	450,214	...	450,2 4	...	362,542	.	87,672
		Grand Total	...	197,216	545 007	2,631	744,°54	33,750	670,179	2,468	138,5.7
	I.—Reserved Forest.										
Garhwál ...	Sál green	...	...	113,333	...	...	113,333	...	111,988	984	461
	„ dry	...	...	...	51,125	...	51 125	...	49,910	...	1,215
	Haldu green	...	...	1,450	...	...	1,450	...	1,260	190	...
	„ dry	...	...	...	105	...	105	...	105	...	...
	Sam green	...	..	25,525	...	...	25,525	...	25,101	221	...
	„ dry	...	...	.	938	...	938	...	938	...	...
	Shisham green	...	...	...	...	...	...	...	...	...	...
	„ dry	...	...	...	868	...	868	...	820	...	48
	Tún „	...	...	...	159	...	152	...	144	..	8
	Sandan „	...	...	...	5,190	...	5,190	...	5, 74	...	16
	Miscellaneous green	...	...	6,679	.	...	6,679	...	3 841	961	1,877
	„ dry	...	...	...	1,753	...	1,753	...	1,543	...	210
		Timber	...	146,987	60,131	...	207,118	...	200,926	* 2,357	3,835
		Firewood	...	...	191,604	...	191,80	...	191 804	...	...
		Grand Total	...	146,987	251,935	...	398,922	...	392,730	2,357	3,835

* Charcoal shown by its equivalent in firewood.

ANNUAL FORM No. 54.—[PRESCRIBED]

FOREST DEPARTMENT, CENTRAL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Outturn of Timber and Firewood during the year* 1886-87—(continued.)

Division.	Description of materials.	Outturn in cubic feet.							Remarks.
		Selection fellings.	Clearances	Thinnings.	Total.	*Removed by*— Government agency.	Purchasers.	Free grantees.	Right-holders.	
	I.—Reserved Forests.									
Ganges ...	Sál green	1,591	...	...	1,591	...	63	1 247	281	
	„ dry	...	85,510	...	85,510	...	85 510	...	...	
	Halda green	5,210	...	...	5,210	...	5,210	...	...	
	„ dry	...	235	...	235	...	235	...	...	
	Sain green	20,662	...	...	20,662	...	17,389	3,273	...	
	„ dry	...	6,181	...	6 181	...	6,181	...	...	
	Shisham green	1,964	...	...	1,964	...	1,964	...	...	
	„ dry	...	2,307	...	2,307	...	2,307	...	...	
	Tún „	...	290	...	290	...	290	...	...	
	Deodár dry	...	50,911	...	50,911	...	50 911	...	...	
	Sandan green	1,642	...	...	1,642	...	1,560	66	16	
	„ dry	...	5,239	...	5,239	...	5,239	...	...	
	Miscellaneous green...	16,917	...	...	16,917	...	2 056	13 763	68	
	„ dry	...	30,724	...	30,724	...	30,724	...	...	
	Timber ...	47,986	181,197	...	229,383	...	210,669	18,349	365	
	Firewood ...	...	405,904	...	405,904	...	405,904	...	...	
	GRAND TOTAL ...	47,986	587,101	...	635,287	...	616,573	18,349	365	

		I—Reserved Forests								
Jhánsi	Ballis	... ...	5,187	...	...	5,187	3,048	2,139	...	...
	Firewood	... ...	...	...	13,028	13,028	1,741	10,176	1,071	...
		Total	5,187	...	13,028	18,215	4,829	12,315	1,071	...
		I—Reserved Forests.								
	Miscellaneous ballis	... ...	9,862	...	4,000	13,862	8,698	5,164	...	...
	Firewood	... ...	...	...	58,060	58,060	10,000	48,060	...	...
		Total	9,862	...	62,060	71,922	18,698	53,224	...	...
		II—Protected Forests								
Lahtpur	Miscellaneous ballis	... ...	1,365	...	...	1,365	1,325	40	...	...
	Firewood	... ...	...	...	5,820	5,820	3,100	2,720	...	...
		Total ...	1,365	...	5,820	7,185	4,425	2,760	...	...
		GRAND TOTAL ...	11,227	...	67,880	79,107	23,123	55,984	...	...
		III.—Unclassed State Forests								
	Ballis	...	12,288	67	...	19,355	16,784	2,571	...	...
	Shafts of carts ...	...	3,600	...	...	3,600	3,600	..	...	...
	Thin ballis for roofing	...	2,635	895	...	3,530	1,928	1,602	...	...
	Axle-trees ...	...	5,490	...	...	5,490	5,490	...	...	...
	Yokes ...	...	16	...	...	16	16	..	...	...
	Plough shafts ...	...	244	...	...	244	11	233	...	...
Pánda	Miscellaneous wood	...	1,041	16,850	...	17,091	...	17,091	...	...
		Timber ...	32,714	17,012	...	49,726	28,229	21,497	...	...
		Firewood ...	...	56,893	...	56,893	54	56,839	...	...
		GRAND TOTAL ...	32,714	73,905	...	106,619	28,283	78,336	...	...

* Charcoal shown by its equivalent in firewood.

ANNUAL FORM No 54.—[Prescribed.]

Forest Department, Central Circle, North-Western Provinces and Oudh.

Outturn of Timber and Firewood during the year* 1886-87—(concluded.)

ABSTRACT.

Division.	Description of materials.	Outturn in cubic feet.								Remarks.
		Selection fellings.	Clearances	Thinnings.	Total.	*Removed by*				
						Government agency.	Purchasers.	Free grantees.	Right-holders.	
	I.—Reserved Forests.									
	Timber	411,574	336,321	6,631	754,526	45,496	629,431	23,784	55,815	
	Firewood	38,930	1,130,369	71,088	1,240,387	50,559	1, 99,913	2,123	87,672	
	Total ...	450,504	1,466,690	77,719	1,994,913	96,055	1,729,364	26 007	143,487	
	II.—Protected Forests.									
	Timber	69,616	...	...	69,6·6	3,596	30,949	5,282	36 789	
	Firewood	128,168	154,953	5,820	288,941	165,214	122,727	...	...	
	Total ...	197,784	154,953	5,820	358,557	169,810	143,676	8,282	56,7o9	
	III.—Unclassed State Forests.									
	Timber	32,714	17,012	..	49 726	28,229	21 497	...	...	
	Firewood	...	56,893	...	56,893	54	56,839	...	...	
	Total ...	32,714	73,905	...	106,619	28,283	78,336	...	...	
	Grand Total ...	681,0 2	1,695,548	83.539	2,460,089	294,148	1,951,876	34,289	180,276	

Naini Tal;
The 7th July, 1887.

* Charcoal shown by its equivalent in firewood.

C. BAGSHAWE,
Offg Conservator of Forests, Central Circle, N.-W. P. and Oudh.

ANNUAL FORM No 55 —[PRESCRIBED.]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE

Outturn of Minor Forest Produce during the year 1886-87

Division	Description of produce	Produce removed or utilized— By Government agency		By Purchasers		By Free grantees		By Right-holders		Total		Remarks
		Quantity	Value.	Quantity	Value	Quantity	Value.	Quantity	Value	Quantity	Value	
	I —Reserved Forests		Rs		Rs		Rs		Rs.		Rs	
	Bamboos, scores	...		544	63	...	...	...	...	544	63	
	Grazing	...		...	1,081	...	...	...	...	...	1,081	
	Other minor produce			...	172	...		...			172	
	Total		...	...	1,316		...		...		1,316	
	II —Protected Forests.											
Naini Tal	Ringal, scores	...	...	708	30	...	...	...	...	708	3	
	Grazing				463					...	463	
	Other minor produce	...		...	1,051	...	...	...	...		1,051	
	Total	...		...	1,544	...	...		...	...	1,544	
	GRAND TOTAL	...		...	2,860	...	...	...	...	...	2,860	
	I —Reserved Forests											
	Bamboos, scores	...	...	102,740	9,490	...		4,184	699	106,926	10,189	
	Grazing	...	...	...	7,838	...	...	...	...	...	7 838	
Kumaun	Other minor produce	...	...	...	(a)31,991	...		...	944	...	32,935	(a) Rs 66, on account of drift timber are included in this
	Total	...	...	...	49,317			...	1,643	...	50,960	
	I —Reserved Forests											
	Bamboos, scores	...	...	255,846	25 1"3	...	...	219	25	256,0"6	25,19"	
	Grazing	...		...	2,878	...	...	...	...		2 878	
Garhwal	Other minor produce	...		...	(b) 8,576	...	...	...	...		8,576	(b) Rs 945, on account of drift timber are included in this
	Total	...	...	...	36,62			...	25	...	36 652	

ANNUAL FORM No. 55.—[PRESCRIBED]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Outturn of Minor Forest Produce during the year 1886-87—(continued).

Division.	Description of produce.	Produce removed or utilized—										Remarks
		By Government agency		*By Purchasers.*		*By Free grantees.*		*By Right-holders.*		*Total.*		
		Quantity.	Value.	Quantity	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
	I.—Reserved Forests.											
Ganges ..	Bamboos, scores	...	...	654,286	61,550	400	40	...	...	6,54,686	61 590	
	Grazing	...	...	...	5,038	...	...	...	...	...	5,038	
	Other minor produce	...	...	...	(c) 5,785	...	...	...	...	...	5 785	(c) Rs. 88 on account of drift timber are included in this.
	Total ...	...	...	..	72,423	...	40	...	...	...	72,463	
	I.—Reserved Forests.											
Jhánsi ...	Bamboos, scores	1,395	577	565	61	...	...	...	...	1,960	638	
	Grazing	...	...	...	4,283	...	...	...	...	...	4,283	
	Other minor produce	...	433	...	612	...	7	...	...	...	1,052	
	Total ...	..	1,010	...	4,956	...	7	...	..	...	5,973	
	I.—Reserved Forests.											
	Bamboos, scores	23,092	3,233	12,299	855	...	...	...	...	35,391	4,088	
	Grazing	...	...	...	2,293	...	...	...	...	...	2,293	
	Other minor produce	...	...	...	(d) 1,540	...	...	...	...	...	1,540	(d) Rs. 16 on account of drift wood are included in this.
	Total ...	...	3,281	...	4,688	...	...	...	...	..	7,9·1	
Lalitpur ...	*II.—Protected Forests.*											
	Bamboos, scores	4,425	768	492	25	...	...	...	...	4,917	793	
	Grazing	...	...	...	...	...	...	...	...	...	...	
	Other minor produce	...	..	..	59	...	...	...	...	...	59	
	Total ...	...	768	...	84	...	...	..	...	.	852	
	GRAND TOTAL ...	...	4,001	...	4 772	...	...	..	...	...	8,773	
	III.—Unclassed State Forests.											
Bánda ...	Bamboos, scores	1,896	442	1,689	269	...	...	...	...	3,585	711	
	Grazing	...	...	...	936	...	...	...	...	...	936	
	Other minor produce	...	9	...	(e) 2,639	...	...	...	...	...	2,648	(e) Rs 21 on account of drift wood are included in this.
	Total ...	...	451	...	3,844	...	...	...	...	...	4,295	

ABSTRACT ANNUAL FORM No. 55.—[Prescribed.]

Forest Department, North-Western Provinces and Oudh, Central Circle.

ABSTRACT.

Outturn of Minor Forest Produce during the year 1886-87.—(concluded).

Division.	Description of produce.	Produce removed or utilized—.										Remarks.
		By Government Agency.		*By Purchasers.*		*By Free grantees.*		*By Right-holders.*		*Total.*		
		Quantity.	Value.	Quantity.	Value	Quantity.	Value.	Quantity.	Value	Quantity.	Value.	
	I.—Reserved Forests.		Rs		Rs.		Rs.		Rs.		Rs.	
	Bamboos, scores	24,467	3,810	1,26,102	97,193	400	40	4,394	724	1,055,363	1,01,766	
	Grazing	...	...	...	23,459	...	...	...	...	...	23,459	
	Other minor produce	...	433	...	(*f*)48,676	...	7	...	944	...	50,(6)	(*f*) Rs. 1,107 on account of drift wood are included in this.
	Total ...	...	4,243	...	1,69,327	...	47	...	1,668	...	1,75,285	
	II.—Protected Forests.											
	Bamboos, scores	4,425	768	493	25	...	...	...	...	4,917	793	
	Ringal	...	...	708	30	...	...	...	...	708	30	
	Grazing	...	...	...	463	...	...	...	...	...	463	
	Other minor produce	...	...	...	1,110	...	...	...	...	...	1,110	
	Total ...	...	768	...	1,628	...	...	...	...	...	2,396	
	III.—Unclassed State Forests.											
	Bamboos scores	1,896	442	1,659	269	...	...	...	...	3,555	711	
	Grazing	...	...	...	936	...	...	...	...	...	936	
	Other minor produce	...	9	...	(*g*) 2 639	...	...	...	...	...	2,648	(*g*) Rs. 21 on account of drift wood are included in this.
	Total ...	...	451	...	3,844	...	...	...	...	...	4,295	
	Grand Total ...	...	5,462	...	1,74,799	...	47	...	1,668	...	1,81,976	(*h*) Rs. 1,128 on account of drift wood are included in this.

Naini Tal;
The 7th July, 1887.

C BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N. W. P. and Oudh.

ANNUAL FORM No. 56.—[PRESCRIBED.]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1886-87.

Particulars			No. or quantity	Cubic feet.	Total of each head.	
					No. or quantity.	Cubic feet.
Balance at commencement of the year.						
Saini Tal Division	Chir karis		4,170	6,419	...	...
	,, planks		11,079	5 699	15,249	12 118
	Charcoal		579	6,610	579	6,610
Kumaun ditto	Sál logs		55	2,349	55	2,349
Garhwál ditto	*Nil*		...	...	...	...
Ganges ditto	,,		...	...	...	...
Jhánsi ditto	Miscellaneous ballis		376	565	376	565
	Firewood	Md.	587	761	587	1,761
	Charcoal	,,	208	2,925	208	2,925
	Bamboos	No.	3,598	No.	3,598	No
	Kiras	,,	860	,,	860	,,
	Kurias	,,	5,577	,,	5,577	,,
Lalitpur ditto	Miscellaneous ballis		665	1,052	661	1,052
	Bamboos	No.	152,935	No.	152,935	No.
	Kurias	,,	1,143	,,	1,143	,,
Bánda ditto	Miscellaneous ballis		3,134	3,138	...	...
	Axle-trees		92	12	...	...
	Yokes		10	3	...	...
	Plough shafts		14	7	...	...
	Thin ballis for roofing		134	41	3 397	3,701
	Bamboos	No	10,170	No.	10,170	No.
Total balance						
Timber			...	...	19 742	19,285
Firewood		Mds.	...	...	587	1,761
Charcoal		,,	...	...	787	9,535
Bamboos		No.	...	...	166,703	No.
Kiras		,,	...	...	860	,,
Kurias		,,	...	...	9,720	...
Removed by purchasers from Depôts.						
Chir karis			3,237	4,956	...	...
,, planks			12,575	6,685	...	...
Sál logs			30	1,275	...	...
,, sleepers			26 406	42,609	...	...
Miscellaneous ballis			6,354	11,007	...	...
Axle-trees			190	208	...	...
Yokes			13	1	...	...
Plough shafts			16	8	...	...
Thin ballis for roofing			227	166	51,048	66 833
Firewood		Mds.	65,177	146,426	65,177	146,426
Charcoal		,,	705	8,598	705	8,598
Bamboos		No.	479,555	No	479,555	No
Kiras		,,	2,719	,,	2,7 9	,,
Kurias		,,	52 806	,,	55,806	,,
Sold locally.						
Chir slabs			830	150	...	...
Miscellaneous ballis			5,177	14 841	...	...
Axle trees			544	1,632	...	...
Thin ballis for roofing			297	297	...	...
Shafts of carts...			859	5 154	7,907	22,074
Firewood		Mds.	40,142	87 992	40,142	87,992
Charcoal		,,	500	5 000	500	5,000
Bamboos		No.	149,187	No.	149,187	No.
Kurias		,,	93,820	,,	93,820	,,
Hides		,,	6	,,	6	,,

ANNUAL FORM No. 56.—[Prescribed]

Forest Department, North Western Provinces and Oudh, Central Circle

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depots or sold locally during the year 1886-87—(continued).

Particulars			No or quantity	Cubic feet	Total of each head: No or quantity	Total of each head: Cubic feet
Received from the Forests to Depôts.						
Chir karis			450	756		
,, planks			2,866	1 534		
Sal sleepers			28 406	42 609		
Miscellaneous ballis			5,621	16 861		
Axle trees			239	478		
Yokes			20	10		
Plough shafts			27	12		
Thin ballis for roofing			405	537	78 022	82,747
Firewood		Mds.	65 179	145 648	65,179	146,844
Charcoal		,,	112	1 003	112	1 103
Bamboos		No.	427 209	No	427,209	No
Kiras		,,	9,227	,,	9,227	,,
Kurias		,,	72 723	,,	72,723	,,
Received from the Forests and sold locally						
Chir slabs			330	150		
Miscellaneous ballis			5,177	14,841		
Axle-trees			344	1,612		
Thin ballis for roofing			297	297		
Shafts of carts			859	5,154	7,207	22 074
Firewood		Mds	40,142	81 992	45,142	87,992
Charcoal		,,	100	5,000	500	5 000
Bamboos		No	149,187	No	14 ,187	No
Kurias		,,	93,820	,,	93 820	,,
Hides		,,	6	,,	6	,,
Received by transfer from Sale Depôts						
Bamboos		No	2,236	No	2 236	No.
Grand Total	Timber				64,971	104 106
	Firewood	Mds.			105 908	235 496
	Charcoal	,,			1 399	15 598
	Bamboos	No			745,733	No
	Kiras	,,			9,087	,,
	Kurias	,,			171, 63	,,
	Hides	,,			6	,,
Lost or written off as useless						
Sal logs				14		
Miscellaneous ballis			322	804		
Axle trees			8	16		
Yokes			14	6		
Plough shafts			9	4		
Thin ballis for roofing			7	9	360	853
Firewood		Mds	101	206	103	206
Used by Department.						
Miscellaneous ballis			3	6	3	6
Bamboos		No	2	No	2	No
Kurias		,,	4	,,	4	,,
Transferred to other Sale Depôts						
Bamboos		No.	2 236	No	2,236	No.
Balance at close of the year						
Naini Tal Division	Chir karis		1,387	2 901		
	,, planks		1,380	628	2 743	2,829
Kumaun ditto	Sal logs		25	1 060	25	1 060
Garhwal ditto	*Nil*					
Gnagra ditto	,,					
Jhánsi ditto	Miscellaneous ballis		150	450	150	450
	Firewood	Mds	486	972	486	972
	Charcoal	,,	194	1,941	194	1,941
	Bamboos	No.	1 879	No.	1,879	No.
	Kiras	,,	368	,,	368	,,
	Kurias	,,	11,694	,,	11,694	,,

ANNUAL FORM No. 56.—[Prescribed.]

Forest Department, North-Western Provinces and Oudh, Central Circle.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1886-87—(concluded).

Particulars.			No or quantity.	Cubic feet.	Total of each head.	
					No. or quantity.	Cubic feet.
Balance at close of the year.—(concluded)						
Lalitpur Division	Miscellaneous ballis		502	753	502	753
	Bamboos	No.	1,92,392	No	1,02,392	No.
	Kurias	„	17,939	„	17,939	„
Bánda	Miscellaneous ballis		2,469	6,556	...	...
	Axle trees		133	266	...	...
	Yokes		12	6	...	...
	Plough shafts		16	7	...	...
	Thin ballis for roofing		503	403	2,933	9,238
	Bamboos	No.	10,084	No	10,084	No.
Total balance.						
Timber			...	...	6,559	14,340
Firewood		Mds.	...	...	486	972
Charcoal		„	...	...	194	1,940
Bamboos		No.	...	...	114,355	No.
Kirns		„	...	...	368	„
Kurias		„	...	...	29,533	„
Grand Total	Timber		...	...	64,971	104,106
	Firewood	Mds.	...	...	105,908	235,596
	Charcoal	„	...	...	1,399	15,538
	Bamboos	No.	...	...	745,335	No.
	Kirns	„	...	...	3,087	„
	Kurias	„	...	...	178,263	„
	Hides	„	...	...	6	„

Naini Tal;
Dated the 7th July, 1887.

C. HAGSHAWE,
Off'g. Conservator of Forests, N.-W. P. and Oudh, Central Circle.

FORM No. 57.—(PRESCRIBED)

FOREST DEPARTMENT, CENTRAL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Abstract showing the value of Timber and other Produce at Sale Depôts, for the year 1886-87.

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks.
	Number.	Cubic feet.	Value.	Number	Cubic feet.	Value	In favor of the year.	Against the year.	
TIMBER.			Rs.			Rs.	Rs.	Rs.	
Sál logs	55	2,349	1,321	25	1,050	530	...	...	
Chír karis	4,170	6 419	4,814	1,383	2,201	194	...	...	
„ planks... ...	11,079	5,699	4,274	1 860	638	1 153	...	...	
Miscellaneous ballis ...	4,179	4,755	630	5,121	9,769	557	...	...	
Axle-trees	92	13	3	133	266	12	...	...	
Thin ballis for roofing, *	134	41	2	803	403	28	...	...	* Sachrá and korou added together.
Plough shafts ...	14	7	1	16	7	2	...	...	
Yokes	19	3	1	12	6	1	...	...	
Total, Timber ...	19,742	19,285	11,048	8,353	14,340	2,477	...	8,569	
FIREWOOD AND CHARCOAL.									
Firewood ... Mds. ...	587	1,761	98	486	972	75	...	...	
Charcoal ... „ ...	787	2,535	348	194	1,940	106	...	...	
Bamboos ... Nos ...	166,703	...	1,142	14,355	...	1,033	...	...	
Kirsa ... „ ...	860	...	43	368	...	35	...	...	
Kurias ... „ ...	9,720	...	24	29,658	...	241	...	...	
Total, Fuel, &c. ...	...	11,296	1,678	...	2,912	1,490	...	188	
Total ...	...	...	12,724	...	...	3,967	...	8,757	

Net difference against the year, Rs. 8,757.

FORM No. 57.—(PRESCRIBED.)

FOREST DEPARTMENT, CENTRAL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Abstract showing the value of live and dead stock for the year 1886-87.

Description of live and dead stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in value		Remarks.
	Number	Value.	Number.	Value.	In favor of the year	Against the year.	
LIVE STOCK.		Rs.		Rs.	Rs.	Rs.	
Elephants	10	14,600	10	14,600	...	...	
Bullocks	48	893	51	870	...	...	
Total, Live stock ...	58	15,493	61	15,470	...	23	
DEAD STOCK.							
Buildings	85	71,628	91	72,996	...	...	
Sheds	4	866	4	866	...	...	
Tools and plant	15 500	11,134	15,180	14,654	...	...	
Carts	26	624	26	647	...	...	
Almirahs	5	195	5	195	...	...	
Gunpowder barrels	2	86	2	86	...	...	
Slow match barrels	1	84	1	84	...	...	
Total, Dead stock ...	15,623	84,817	15,309	89,513	4,701	...	
Total ...	...	1,00,510	...	1,05,183	4,701	23	

Net difference in favor of the year, Rs. 4,678.

NAINI TAL ;
The 7th July, 1887.

C. BAGSHAWE,
Offg. Conservator of Forests, N.-W. P. and Oudh, Central Circle.

ANNUAL FORM No. 58.—[PRESCRIBED.]

FOREST DEPARTMENT, CENTRAL CIRCLE.

Summary of Revenue of the different Divisions, 1886-87.

Budget heads, Receipts.	Direction.	Naini Tal Division.	Kumaun Division.	Garhwál Division.	Ganges Division.	Jhánsi Division.	Lalitpur Division.	Bánda Division.	TOTAL.
I.—Timber and other produce removed from the Forests by Government agency :—	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
(a.) Timber	...	9,949 4 6	71,633 12 7	...	...	249 8 4	1,544 8 2	941 1 3	83,617 8 10
(b.) Firewood and charcoal	...	40,181 8 7	...	...	...	198 3 0	498 4 0	...	40,887 15 7
(c.) Bamboos	...	...	...	...	...	576 11 0	4,000 15 3	442 4 8	5,019 14 11
(d.) Sandal-wood	...	...	...	...	...	...	...	...	...
(e.) Grass and other minor	...	...	...	...	...	433 5 0	...	8 8 0	441 13 0
II.—Timber and other produce removed from the Forests by consumers or purchasers—									
(a.) Timber	...	3,989 13 0	78,985 2 2	1,12,610 4 3	54,063 1 8	59 12 11	790 7 7	891 3 0	2,50,890 2 7
(b.) Firewood and charcoal	...	3,370 14 1	4,546 3 9	2,537 14 9	2,450 5 11	896 0 10	338 5 0	833 13 9	14,973 15 1
(c.) Bamboos	...	92 11 3	2,489 12 2	25,172 11 6	61,560 7 4	61 0 0	879 15 3	268 10 0	97 515 3 6
(d.) Grazing and fodder grass	...	1,544 2 0	7,836 1 2	2 877 10 11	5 088 6 0	4,282 15 5	2,282 12 0	935 10 0	24,857 9 6
(e.) Other minor produce	...	1,223 2 9	31,925 5 7	7,690 11 4	8,704 13 4	611 12 6	1,582 2 0	2,618 1 3	51,396 7 9
III.—Confiscated drift and waif wood	...	...	65 10 3	945 4 7	80 4 6	...	16 0 0	21 6 3	1,128 9 7
IV.—Revenue from forests not managed by Government :—									
(a.) Duty on foreign timber and other forests produce	...	...	...	...	...	...	...	...	...
(b.) Revenue from shared and private forests	...	...	...	...	...	...	...	...	...
V.—Miscellaneous :—									
(a.) Fines and forfeitures	...	1,052 12 0	297 15 10	...	275 12 0	0 8 0	1 0 0	...	1,627 15 10
(b.) Refunds	...	39 0 0	66 10 8	68 10 6	63 13 11	0 5 0	...	26 4 0	262 12 3
(c.) Other sources	...	2,333 12 0	145 0 6	744 4 0	487 3 9	414 1 2	553 6 4	914 15 5	5,592 11 2
Total	...	63,087 0 2	2,04,901 15 8	1,52,585 13 0	1,29,764 4 5	7,783 12 2	12,498 9 7	7,401 13 7	5,78,022 11 7

CALCUTTA;
The 26th May, 1887.

J TAYLOR,
Assistant Comptroller-General (Forests)

ANNUAL FORM No. 58.—[Prescribed.]

Forest Department, Central Circle.

Summary of Expenditure of the different Divisions, 1886-87.

Budget heads, Expenditure	Direction.	Naini Tal Division.	Kumaun Division	Garhwal Division	Ganges Division.	Jhansi Division.	Lalitpur Division.	Bánda Division	Total.
A.—Conservancy and Works.	Rs. a. p.	Rs. a. p.	Rs a. p	Rs. a. p	Rs. a. p	Rs. a p	Rs. a p	Rs. a. p	Rs a p.
I.—*Timber and other produce removed from the forests by Government agency* —									
a Timber	...	1,291 13 3	26,236 5 7	...	...	224 7 2	299 14 5	403 1 11	28,455 10 4
b Firewood and charcoal	...	19,191 12 0	...	...	...	47 9 3	176 4 0	...	19,415 9 3
c. Bamboos	...	...	...	...	...	75 11 7	1,233 3 6	139 6 3	1,449 5 4
d. Sandal wood	...	...	...	...	...	...	...	...	...
e Grass and other minor produce	...	...	...	...	...	238 2 0	...	...	238 2 0
II.—*Timber and other produce removed from the forests by consumers or purchasers*	...	368 2 1	7,145 4 3	7,389 11 8	8 910 11 7	...	50 0 0	...	23,863 13 7
III.—*Confiscated drift and waif wood*	...	...	...	...	...	...	...	...	...
IV.—*Revenue from forests not managed by Government* —									
a Duty on foreign timber and other forest produce	...	...	...	...	...	...	...	...	...
b. Revenue from shared and private forests	...	...	...	...	...	...	...	...	...
V.—*Rent of leased forests and payments to share holders in forests managed by Government*	...	...	...	...	...	...	...	703 10 5	703 10 5
VI.—*Live stock stores tools and plant* —									
a. Purchase of Cattle	...	...	...	...	...	42 0 0	150 0 0	...	192 0 0
b. Feed and keep of cattle	...	...	1,023 9 2	2,927 5 4	1,195 6 8	370 1 4	1,398 11 1	17 0 0	6,931 8 7
c Stores, tools and plant	444 14 6	247 11 9	1,558 14 1	1,104 14 0	1,192 19 7	43 8 0	339 10 2	20 5 0	4,953 8 1
VII.—*Communications and buildings* :—									
a. Roads and bridges	...	128 10 0	6,599 2 8	15,123 15 3	4,278 13 2	48 6 0	120 0 0	100 0 0	26,398 9 1
b. Buildings	26 3 6	477 12 8	2 108 6 4	2,276 9 8	1,999 6 8	115 3 6	228 5 3	20 11 0	7,963 10 4
c. Other works	...	10 0 0	289 8 3	160 3 9	6 14 0	13 2 8	...	...	479 12 8
VIII.—*Demarcation, improvement and extension of forest* —									
a Demarcation	...	1,471 8 11	3,816 15 6	169 4 1	35 5 0	...	...	...	4,993 1 6
b. Compensation for land and rights	...	...	...	...	...	...	...	...	...
c. Surveys and working plans	...	540 8 10	355 9 2	38 5 5	386 6 0	...	...	...	1,320 13 5
d. Plantations	...	1,991 5 9	99 5 2	322 0 8	111 4 9	256 1 8	106 0 0	2 3 0	2 890 6 0
e Protection from fire	...	478 6 9	3,652 2 6	12,692 10 11	936 9 4	22 0 0	100 0 0	15 0 0	18,136 12 9
f Other works	...	469 14 0	255 10 6	597 13 0	25 8 8	30 0 0	...	...	1,378 14 2
IX.—*Miscellaneous* —									
a. Refunds	...	3 0 0	...	...	...	...	17 1 10	...	20 1 10
b Law charges	...	46 15 0	...	...	...	...	...	...	47 15 0
c. Other charges	1 0 0	1 12 0	109 12 6	318 4 0	146 7 3	46 2 6	25 0 0	3 2 6	650 8 9
Total, A —Conservancy and Works	472 2 0	26,719 5 3	62,730 0 8	44,022 1 6	19,375 7 8	1,573 1 8	4,238 2 3	1 431 8 1	1,60 461 13 1

Calcutta,
The 26th *May*, 1887

J TAYLOR,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 58—[PRESCRIBED.]

FOREST DEPARTMENT, CENTRAL CIRCLE.

Summary of Expenditure of the different Divisions, 1886-87.

Budget heads.	Direction.	Naini Tal Division.	Kumaun Division.	Garhwál Division.	Ganges Division.	Jhánsi Division.	Lalitpur Division.	Bánda Division.	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Brought forwards, Total A., Conservency and Works	472 2 0	26,719 5 3	2,730 0 8	44,022 1 6	19,275 7 8	1,573 1 8	4,238 2 3	1,431 8 1	1,60,461 13 1
B.—ESTABLISHMENT.									
I.—Salaries:—									
a. Conservators	14,366 10 8	...	...	...	...	...	...	...	14,366 10 8
b. Superior Officers	2,432 4 1	8,874 3 1	11,405 3 10	10,199 4 6	11,350 0 0	...	...	...	44,260 15 6
c. Subordinate forest and depôt establishments	...	3,219 10 9	7,816 11 0	9,383 12 9	4,951 11 8	1,102 0 0	1,677 0 0	1,909 0 0	28,952 14 2
d. Office establishments	2,756 0 0	840 0 0	2,093 12 11	1,896 0 0	1,292 0 0	57 4 0	202 6 5	780 0 0	11,017 7 4
e. Deputation and special allowances	...	1,800 0 0	...	15 0 0	79 10 4	...	...	...	1,894 10 4
II.—Travelling Allowances:—									
a. Conservators	1,562 2 6	...	...	...	...	...	...	...	1,562 2 6
b. Superior Officers	...	987 13 0	1,485 10 6	1,439 0 0	1,180 12 0	...	...	...	4,893 3 6
c. Subordinate forest and depôt establishments	...	62 0 0	877 14 11	1,028 15 7	532 7 8	104 0 0	102 10 8	140 0 0	3,248 0 10
d. Office establishments	43 12 0	36 8 0	528 0 0	518 7 4	458 13 0	...	5 5 4	39 0 0	1,629 13 8
III.—Contingencies:—									
a. Stationery	2 4 6	24 0 0	60 15 0	6 0 0	88 7 2	12 0 0	24 7 8	12 0 0	230 2 4
b. Carriage of tents and records	501 2 3	155 13 6	248 15 11	559 10 7	337 3 3	...	...	...	1,812 13 6
c. Rents, Rates and Taxes	92 11 4	60 0 0	64 0 0	20 0 0	20 0 0	12 0 0	...	...	268 11 4
d. Pay of Police guards	300 0 0	...	...	...	...	...	...	...	300 0 0
e. Official postage	292 6 0	46 11 6	98 2 6	127 10 6	75 3 0	4 6 0	65 13 6	...	710 5 0
f. Sundries	461 3 0	273 0 9	290 9 11	400 1 5	133 7 9	14 14 0	3 0 6	20 9 2	1,596 14 6
Total B., Establishments	23,810 8 4	16,382 12 7	24,180 0 6	25,593 14 8	20,699 11 10	1,306 8 0	2,180 12 1	2,300 9 2	1,16,654 13 2
GRAND TOTAL OF EXPENDITURE	24,282 10 4	43,102 1 10	86,910 1 2	69,616 0 2	40,175 3 6	2,879 9 8	6,418 14 4	3,732 1 3	2,77,116 10 3

CALCUTTA;
The 26th May, 1887.

J. TAYLOR,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 59.—[Prescribed.]

Forest Department, North-Western Provinces and Oudh, Central Circle.

Dr. *Account Current for the year* 1886-87. Cr.

Heads of Account.	Rs. a. p.	Rs. a. p.	Heads of Account.	Rs. a. p.	Rs. a. p.
To Opening balance		11,306 11 1	By Expenditure as per annual form No. 58		2,77,116 10 3
Assessed Taxes.			,, Deposit		371 10 8
,, Income-tax deductions from salary bills		1,612 11 10	*Forest Cash Remittances (Local.)*		
,, Revenue as per annual form No. 58		5,78,022 11 7	,, Remittances to treasuries	4,67,246 9 2	
Service Funds.			,, Inter-divisional transfers	70 0 0	4,67,316 9 2
,, Uncovenanted Service Family Pension Fund, Bengal		1,701 2 0	,, Advances recoverable		54,192 13 5
,, Deposits		395 0 0	,, Inter Departmental Tran-fers		
Forest Cash Remittances (Local.)			*Public Works Department, State Railways*		
,, Forest cheques drawn	2,52,739 14 3		,, Rajputana and Malwa State Railway	56,250 0 0	
,, Inter-divisional transfer	1,990 0 0	2,54,730 14 3	,, Other Branches	15 223 2 6	
,, Advances recoverable		59,461 11 6	,, Military Department, Bengal	39,383 12 11	1,10,856 15 5
Account current, other Governments.			,, Closing Balance		4,912 10 8
,, Government of India		4,373 10 1			
Inter-departmental transfers.					
,, Public Works Deparment—Other branches	363 1 0				
,, Military Department, Bengal	2,326 12 3				
Civil Departments.					
,, Mathematical Instrument Department	115 14 0				
,, Survey of India Department	355 2 0	3,160 13 3			
Total		9,14,767 5 7	Total		9,14,767 5 7

Calcutta;
The 26th May, 1887.

J TAYLOR,
Assistant Comptroller-General (Forests.)

ANNUAL FORM No. 60.—[PRESCRIBED]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH. CENTRAL CIRCLE,

Revenue received and outstandings on account of revenue during 1886-87

Division.	Particulars	Outstandings at commencement of year	Value of sales and other revenue during year	Total	Amount realised during year	Balance due to the Department at end of year	Remarks
		Rs. a p	Rs. a. p	Rs a p	Rs a. p	Rs a. p	
Direction	Timber, poles, grazing dues, and minor produce.	...	...	...	...	...	
Naini Tal	Ditto ditto ..	...	63,087 0 2	63,087 0 2	63,087 0 2	.	
Kumaun	Ditto ditto ..	...	2,04 901 15 8	2,04,901 15 8	2,04 901 15 8	...	
Garhwál	Ditto ditto ...	...	1,52 585 13 0	1,52,585 13 0	1,52,585 13 0	...	
Ganges	Ditto ditto ...	...	1,29,764 4 5	1,29,764 4 5	1 29,764 4 5	.	
Jhansi	Ditto ditto	23 0 0	7,760 12 2	7 783 12 2	7,783 12 2	..	
Lalitpur	Ditto ditto ..	...	12,498 0 7	12 498 0 7	12,498 0 7	...	
Banda	Ditto ditto ...	361 8 8	7,616 5 2	7,977 13 10	7,401 13 7	576 0 3	
	Total ...	384 8 8	5,78,214 3 2	5,78 598 11 10	5,78,022 11 7	576 0 3	

NAINI TAL,
The 7th July, 1887

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N-W. P. and Oudh.

ANNUAL FORM No. 61.—[PRESCRIBED.]

FOREST DEPARTMENT, CENTRAL CIRCLE.

Outstandings and Liabilities on account of Contractors and Disbursers, for 1886-87.

Division	*Department Debtor*			*Department Creditor.*			*Balance Due*		Remarks
	At commencement of year	Recoveries in cash and value of supplies and work done during the year.	At close of year	At commencement of year.	Payments made during year	At close of year.	To Department (Outstandings)	By Department (Liabilities)	
		Rs a. p.	Rs a p.	Rs a p	Rs a. p	Rs a. p	Rs a. p		
Direction	..	102 8 0	102 8 0	...	172 8 0	172 8 0	70 0 0	...	
Naini Tal	..	2 068 8 9	2,068 8 9	740 9 2	2,122 7 9	2,863 0 11	794 8 2	...	
Kumaun	..	27,826 14 8	27 826 14 8	1 982 0 8	27,305 2 4	29 287 3 0	1,460 4 4	..	
Garhwál	...	17,742 7 1	17,712 7 1	4,608 0 10	13 910 4 9	18,518 5 7	778 14 6	.	
Ganges . . .	...	7,496 7 4	7,496 7 4	1,268 0 7	6,264 11 1	7,532 11 8	106 4 4	..	
Jhansi	...	654 0 10	654 0 10	214 9 11	566 1 0	780 10 11	126 10 1	.	
Lalitpur	...	2 555 5 5	2,555 5 5	...	2,766 3 1	2766 3 1	210 13 8	..	
Banda	.	1 085 7 5	1,085 7 5		1,085 7 5	1,085 7 5		.	
Total ...	...	59 461 11 6	59,461 11 6	8,813 5 2	54,192 13 5	63,006 2 7	3,544 7 1	...	

CALCUTTA,
The 26th May, 1887

J TAYLOR,
Assistant Comptroller-General (Forests)

ANNUAL FORM No. 62.—[PRESCRIBED.]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Financial results of the year 1886-87.

Division.	*Timber and other produce removed from the forests by Government agency.*		*Other revenue.*		*Formation, protection and improvement of forests.*	*Total*		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Direction ...	*Nil.*		Charges proportionately distributed.					
Naini Tal ...	49,441	26,791	13,646	6,676	11,185	63,087	44,652
Kumaun ...	71,634	51,456	1,33,308	21,074	22,880	2,04,902	95,410
Garhwál ...	*Nil.*	*Nil.*	1,52,586	24,992	41,624	1,52,586	76,616
Ganges ...	*Nil.*	*Nil.*	1,29,764	26,770	19,405	1,29,764	46,175
Jhánsi ...	1,457	842	6,327	937	1,501	7,784	3,280
Lalitpur ...	6,043	3,711	6,455	1,107	2,201	12,498	7,019
Bánda ...	1,392	902	6,010	1,364	1,749	7,402	4,015
Total ...	1,29,967	83,702	4,48,056	92,920	1,00,495	5,78,023	2,77,117	

The debits have been made as follows:—

Naini Tal, Kumaun, and Lalitpur.

I.—Timber and other produce.

$$A\left\{I+\frac{VI}{2}+\frac{VII}{3}+\frac{IX}{3}\right\}\times\frac{B}{3}+\frac{\text{Direction Division quota of charges.}}{3}$$

II.—Other Revenue.

$$A\left\{II+III+IV+\frac{V}{2}+\frac{VII}{3}+\frac{IX}{3}\right\}+\frac{B}{3}+\frac{\text{Direction Division quota of charges.}}{3}$$

III.—Formation, protection, &c.

$$A\left\{\frac{VI}{2}+\frac{V}{2}+\frac{VII}{3}+VIII+\frac{IX}{3}\right\}+\frac{B}{3}+\frac{\text{Direction Division quota of charges.}}{3}$$

Garhwál and Ganges ...

I.—Timber and other produce.

Nil.

II.—Other Revenue.

$$A\left\{II+III+IV+V+\frac{VI}{2}+\frac{VII}{2}+\frac{IX}{2}\right\}+\frac{B}{2}+\frac{\text{Direction Division quota of charges.}}{2}$$

III.—Formation, protection, &c.

$$A\left\{\frac{VI}{2}+\frac{VII}{2}+VIII+\frac{IX}{2}\right\}+\frac{B}{2}+\frac{\text{Direction Division quota of charges.}}{2}$$

Jhánsi and Bánda ...

I.—Timber and other produce.

$$A\left\{I+III+IV+\frac{V}{6}+\frac{VI}{6}+\frac{VII}{6}+\frac{IX}{6}\right\}+\frac{B+\text{Direction Division quota.}}{12}$$

II.—Other produce.

$$A\left\{II+\frac{V}{3}+\frac{VI}{3}+\frac{VII}{3}+\frac{IX}{3}\right\}+\frac{5}{12}\text{ of B and Direction Division quota.}$$

III.—Formation, protection, &c.

$$A\left\{\frac{V}{2}+\frac{VI}{2}+\frac{VII}{2}+VIII+\frac{IX}{2}\right\}+\frac{\text{B and Direction Division quota.}}{2}$$

APPENDIX A.

Forest Department, Central Circle North-Western Provinces and Oudh.

Statement of trees felled.

Description of trees.	Selection fellings.								Thinnings.								Clearances.								Grand Total.	
	By Government agency.		By contractors.		By right-holder and grantees.		Total.		By Government agency		By contractors.		By right-holders and grantees.		Total.		By Government agency.		By contractors.		By right-holders and grantees.		Total.			
	No.	c. ft	No.	c. ft.	No.	c. ft.	No.	c. ft.	No.	c ft	No.	c. ft.	No.	c. ft.	No.	c. ft	No.	c. ft.	No.	c. ft.	No.	c. ft.	No.	c. ft.	No.	c. ft.
Sál ...	1,328	39,606	5,609	115 023	*1,125	26,738	8,062	181 367	...	...	1,108	2,206	247	494	1,850	2,700	...	...	1,173	2,346	...	...	1,173	2,346	10,588	186,413
Sein ...	13	222	1,790	53,418	66	3,273	1,869	66,913	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,869	66,913
Sisham ...	...	...	413	4 986	4	36	417	5,022	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	417	5,022
Tún ...	...	...	40	1,403	1	30	41	1,433	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	41	1,433
Haldu ...	15	900	423	52,416	...	...	438	53,406	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	438	53,406
Chír ...	3,809	145,195	742	24,424	3,682	33,94-	8,226	203,567	...	...	...	...	...	...	...	...	69	2,215	...	...	...	...	69	2,215	8,295	205,782
Oak ...	1,079	21,679	38	2,090	608	1,938	1,725	25,707	...	...	...	...	...	...	...	...	50	1,000	...	...	...	...	50	1,000	1,775	26,707
Miscellaneous	14,116	47,120	7,808	39,248	10,526	23,924	32,450	110,392	...	...	2,214	4,041	...	...	2,214	4,041	943	1,432	8,025	16,050	...	...	8,967	17,482	43,631	131,915
Total... 1886-87,	20,353	254,912	16,863	303,008	16,012	89,887	53,229	647,807	...	...	3,317	6,247	247	494	3,564	6,741	1,061	4,647	9,198	18,396	...	...	10,259	23,043	67,051	677,591
Total... 1885-86,	14,137	176,050	18,856	269,018	10,493	76,798	43,486	521,866	232	50	652	39,785	1,600	2,478	2,494	42,313	14	32	1,379	14,759	49	166	1,442	14,957	47,412	585,136
Difference. More .	6,216	78,862	...	33,990	5,519	13,089	9,742	125,941	...	...	2,665	...	...	...	...	...	1,047	4,615	7,819	3,637	...	...	8,817	8,086	19,639	92,455
Difference. Less ..	...	...	1,993	...	...	...	...	...	232	50	...	33,538	1,353	7,984	1,080	41,573	...	...	...	...	49	166	...	...	...	...

* Includes 200 trees given to His Highness the Nawab of Rampur, cubing 11,192 feet.

More ... 23,256 trees = 134,193 cubic feet.
Less ... 3,617 „ = 41 738 „
Net Increase ... 19,639 trees = 92,455 cubic feet.

Naini Tal;
Dated the 7th July, 1887.

C. BAGSHAWE,
Offg. Conservator of Forests, N.-W. P and Oudh, Central Circle

APPENDIX B.

FOREST DEPARTMENT, CENTRAL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH,
Yield in produce.

Description of produce.	1885-86.		1886-87.	
	Quantity.	Value.	Quantity.	Value.
		Rs.		Rs.
Timber from green trees felled c. ft. ...	509,015	2,85,294	(a) 506,810	2,16,125
Ditto from dry trees	252,177	80,410	333,975	1,00,372
Firewood and charcoal	1,184,077	47,325	1,624,921	55,617
Bamboos including ringals. Scores...	721,681	76,288	1,064,763	1,03,506
Minor forest produce including drift wood ...	...	28,888	...	53,818
Grazing dues	...	27,721	...	24,858
Total ...	...	4,95,876	...	5 56.496

c ft.

NOTE (a).—Total outturn of timber from trees felled as per appendix A. ... 677,591
Ditto ditto as per this appendix ... 506,810
Difference ... 170,781

The difference is included under items firewood and charcoal, 170,781 c.ft. of the fellings in the Naini Tal Division having been converted into firewood and charcoal for the troops at Naini Tal and Ránikhet.

NAINI TAL;
The 7th July, 1887.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

APPENDIX C.

Forest Department, Central Circle, North-Western Provinces and Oudh.

Statement showing disposal of produce collected by Government agency for 1886-87, *compared with results for* 1885-86.

Description of produce.		Sold locally, not brought to Depôt.				Depôt transaction.											
						Balance in hand at commencement of year.				Brought to Depôt.				Total receipts in Depôt.			
		1885-86.		1886-87.		1885-86.		1886-87.		1885-86.		1886-87.		1885-86.		1886-87.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Timber	C.ft.	3,206	520	22,074	1,612	21,452	16,002	19,285	11,046	65,115	77,213	62,747	73,368	86,567	93,215	82,032	84,414
Firewood	Mds.	22,928	23,227	40,142	12,656	4,201	1,406	587	98	47,868	21,192	65,179	28,642	52,056	22,598	65,766	28,740
Charcoal	"	...	...	500	260	3,172	1,578	787	345	204	105	112	39	3,376	1,683	899	384
Bamboos	Nos	10,230	1,757	149,187	823	84,443	566	166 703	1,148	817,113	3,069	427,209	3,898	9,01,556	3,635	5,93,912	5,046
Minor produce	No.	...	626	93 826	749	10,790	75	10,580	67	144,401	617	74,950	693	1,55,191	692	85,530	780
Total		...	26,130	...	16,049	...	19,627	...	12,724	...	1,02,196	...	1,06,640	...	1,21,023	...	1,19,364

APPENDIX C

Forest Department, Central Circle, North-Western Provinces and Oudh.

Statement showing disposal of produce collected by Government agency for 1886-87, *compared with results for* 1885-86—(concluded).

Description of produce.	Depôt transactions—(*concluded*)																				Remarks.
	Removed by purchasers from Depôt.				*Converted in Depôt.*				*Lost or written off as useless.*				*Used by Department.*				*Total issued from Depôt.*				*Balance in hand at close of year.*				
	1885-86.		1886-87		1885-86.		1886 87		1885-86		1886 87		1885-86.		1886-87.		1885 86.		1886 87.		1885 86.		1886-87.		
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value	Quantity	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value	Quantity.	Value.	
Timber c ft.	67,148	Rs. 82 354	66,8 3	Rs 81,907	...	...	...	...	...	...	853	28	134	15	6	2	67,282	Rs. 82 369	67 692	Rs 8 ,937	12,285	Rs 11,946	14,340	Rs 2,477	
Firewood Mds.	51,472	22,499	65,177	28,645	..	..	..	...	7	1	109	20	...	...	...	..	51,479	22,500	65,280	28,665	567	98	466	75	
Charcoal ,,	2,5e9	1,136	705	278	...	...	...	..	...	...	...	...	...	...	...		2,569	1,136	105	278	787	345	194	106	
Bamboos Nos	734 853	2,487	479,555	4,013	...	...	...	...	...	...	...	...	...	...	2	..	734,853	2,487	479 557	4,013	1,66,768	1,148	1 14,755	1,033	
Minor produce, Nos	144,611	605	55,525	504	...	...	...	...	...	...	..	...	...	...	4	...	144,611	605	55 529	504	10,580	87	30,091	276	
Total ...	..	109,081	...	1,15,847	...	.	...	..	...	1	...	48	..	15	...	2	...	1,09,097	...	1,15,397	..	(a) +2 12,724	...	3,967	(a) Add difference owing to change of rates in timber and charcoal in Naini Tal and Kumaun Divisions, Rs. 2.

Naini Tal;
The 7th July, 1887.

C. BAGSHAWE,
Offg Conser of Forests, Central Circle, N.-W. P. and Oudh.

APPENDIX D.

FOREST DEPARTMENT, CENTRAL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Report on the Ranikhet nursery and plantation, by W. Craw, Esquire, Superintendent.

1. The following is a list of seeds of fruit and forest trees sown :—

Name		lbs.	oz.
First, fruit trees.—Peach		7	
Apricot		7	
Apple		15	
Pear		15	
Second, forest trees.—Horse Chestnut		42	
Ash		160	
Deodar		16	
Cypress		10	
Sneezewood (Pterocylon utile)		1 packet.	

2. The apple and pear seeds which were, as usual, procured from Messrs. James Veitch and Sons, London, and sown in February, have not yet vegetated. The seed, however, was in good sound condition and may be relied upon to vegetate in proper time. Parcels of these seeds, sown February, 1886, and referred to in para. 3 of my annual report for 1885-86, germinated sparingly during the succeeding months, but are now coming up very freely.

3. The seeds of all forest trees sown have, with the exception of the small packet of sneezewood, germinated very well, but sufficient time has not yet elapsed to report favourably or otherwise of the latter. It is worthy of note that of the four packets of sneezewood received in August, 1885, from Mr. Fisher, Conservator of Forests, School Circle, Dehra Dún, and which I stated in my annual report for 1885-86, para. 5, to have entirely failed, one, the yellow sneezewood (Podocarpus elongatus enlinigun) should have germinated during the rains of 1886, producing 15 plants. The seed was sown the 18th August and only germinated the succeeding year.

4. I am pleased to be able to report that the gum seed saved from trees growing at Ránikhet germinated very well, thereby proving the fertility of acclimatized seed.

5. The planting in the forests during the year consists of the following trees :—

At Dalmoti.—Cypress		3,581
Chil		71
Willow		2,296
Alder		633
At Kouali.—Ash		722
Horse Chestnut		1,356
Walnut		2,107
Total		10,766

With the exception of a number of cypress at Dalmoti, which were killed by drought, the transplants are mostly doing well.

6. List of fruit and forest trees distributed during the year.

First—Fruit trees.

To whom.	Apple.	Pear.	Apricot.	Plum.	Peach.	Nectarine	Cherry.	Fig.	Quince.	Mulberry.	Currant.	Sweet chestnut.	Total.
Villagers and householders	2,513	2,632	1,341	323	1,045	74	230	198	74	16	56	42	8,544
The Commissioner, Rawal pindi.	100	100	25	...	25	25	25	...	...	...	...	...	300
The Senior Assistant Commissioner, Kumaun.	...	..	10	25	10	...	50	10	...	...	...	...	105
The Senior Assistant Commissioner, Garhwál.	300	50	...	...	...	...	...	..	...	...	...	...	350
Total ...	2,913	2,782	1,376	348	1,080	99	305	208	74	16	56	42	9,299

Second—Forest trees.

To whom.	Walnut.	Horse Chestnut.	Deodar.	Gum.	Ash.	Willow.	Cypress.	Spruce.	Chil.	Total.
Forest Department, Naini Tal.	...	...	1,650	...	...	...	...	...	700	2,350
Station Staff Officer, Almora.	100	400	250	..	...	...	800	...	...	1,550
Villagers and house-holders.	183	41	236	94	10	18	87	59	...	719
Total ...	283	441	2,136	94	10	18	887	59	700	4,619 Total ... 13,916

7. I regret to say that, owing to hail-storms and high wind when the trees were in blossom, the fruit crop of 1887 will not be a good one. Pears and cherries have almost failed, apples and peaches will be little more than half a crop, and plums and apricots only an ordinary crop.

8. The whole of the uncleared land at the bottom of the nursery, amounting to four acres, two roods and four poles, has been broken up, cleared of tree stumps, carefully terraced and drained to prevent wash from sudden heavy showers. The soil is the best of any in the nursery, and particularly suitable to the cultivation of young fruit trees. A number of convenient paths and roads have also been made, but there is still a good deal of this work to do.

9. The following is a list of all trees in the nursery :—

	Number.
First, Forest trees.	
Horse Chestnut ...	25,856
Walnut ...	19,880
Deodar ...	37,864
Ash ...	11,520
Gum ...	1,094
Cypress ...	8,835
Willow ...	1,644
Ghingaru ...	8,882
Miscellaneous ...	618
Total ...	1,16,693
Second, Fruit trees, &c.	
Apples grafted ...	5,908
,, stock ...	9,316
Pear grafted ...	11,997
,, stock ...	19,124
Apricot budded ...	5,096
,, stock ...	23,400
Plum budded ...	828
,, stock ...	1,252
Cherry budded ...	552
,, stock ...	835
Peach budded ...	4,058
,, stock ...	8,564
Nectarine budded ...	412
Fig ...	1,882
Quince ...	950
Currant ...	156
Mulberry ...	62
Loquot enarched ...	5
,, stock ...	517
Sweet Chestnut ...	536
Total ...	96,630

Third—Fruit trees, larger stock.

	Number.
Apple	319
Plum	110
Cherry	197
Sweet Chestnut	54
Mulberry	20
Fig	76
Quince	25
Currant	89
	890

Fourth—Trees planted for the production of fruit and seed and wood for grafting and budding.

	Number.
Apple	2,012
Pear	1,030
Apricot	648
Plum	228
Cherry	105
Peach	199
Loquat	21
Crab-apple	19
Sweet Chestnut	475
Total	4,737
GRAND TOTAL	216,150

W. CRAW,
Superintendent, Nurseries.

APPENDIX E.

FOREST DEPARTMENT, CENTRAL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

List of buildings and wells maintained for use of Forest Officers.

Description of buildings	For Controlling Officers.	For subordinates, excluding Revenue Depôts.	Officers' Stores, Revenue Depôt.	Wells.	Total.	Remarks.
Direction Division.						
Permanent			1		1	
Total			1		1	
Naini Tal Division.						
Permanent	2	8	5		15	
Semi-permanent	2				2	
Temporary		1			1	
Total	4	9	5		18	
Kumaun Division.						
Permanent	3	2	12	2	19	
Semi-permanent						
Temporary						
Total	3	2	12	2	19	
Garhwal Division.						
Permanent	11	5	12	2	30	
Semi-Permanent						
Temporary				1	1	
Total	11	5	12	3	31	
Ganges Division.						
Permanent	3		5	2	10	
Semi-permanent						
Temporary				1	1	
Total	3		5	3	11	
Jhansi Division.						
Permanent				1	1	
Semi-permanent	1		3		4	
Temporary						
Total	1		3	1	5	
Lalitpur Division.						
Permanent						
Semi-permanent	2	22	1		25	
Temporary						
Total	2	22	1		25	
Banda Division.						
Permanent						
Semi-permanent	1		1		2	
Temporary						
Total	1		1		2	
GRAND TOTAL	25	38	40	9	113	

NAINI TAL,
The 7th July, 1867.

C. RAGSHAWE,
Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh.

No. 44L.G. of 1887-88.

From

R. WHITTALL, Esq.,

Offg. Conservator of Forests, Oudh Circle,

To

The Secy. to Govt., N.-W. P. and Oudh,

In the Revenue (Forests) Dept.

Dated Naini Tal, the 16th July, 1887.

Sir,

I have the honor to forward the Annual Progress Report on Forest Administration in the Oudh Circle for 1886-87.

I have the honor to be,

Sir,

Your most obedient servant,

R. WHITTALL,

Offg. Conservator of Forests, Oudh Circle.

OUDH CIRCLE REPORT.

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OUDH CIRCLE.

N.-W. PROVINCES AND OUDH.

ANNUAL PROGRESS REPORT

OF

FOREST ADMINISTRATION

FOR THE YEAR ENDING 31st MARCH, 1887.

By R. Whittall, Esq., Officiating Conservator of Forests, Oudh Circle.

CHAPTER I.

AREA AND BOUNDARIES.

Area.

1. The area has been increased by 5,935 acres, *viz.*, 5,053 acres in the Bhira Division, 3 in Kheri and 879 in Gonda.

2. In Bhira the addition is the 5,053 acres referred to in paragraph 6 of last year's report, consisting of portions of two grants known as Thurburnpur and Mailani No. 2.

3. In Kheri the addition of 3 acres is thus obtained. In 1884-85, 27 acres were given over to the Public Works Department in Government order No. 792F. of the 25th October, and No. $\frac{494P}{615-4}$ of the 1st November, 1884.

Out of these 27, the Public Works Department only actually appropriated 23·7, so that the balance is now written back.

4. In Gonda 346 acres of grant Yakub-Bankat, and 533 of grant Ashrafabad, referred to in paragraph 8 of last year's report, were added.

5. With regard to working out the actual areas of forests about which doubts exist, no increase of permanent establishment having been sanctioned, nothing has been done towards the preparation of the maps referred to in paragraph 7 of last year's report.

Boundaries.

6. In Pilibhit the lines, 17 in number, bounding the 24 compartments of the open forests as detailed in Government order No. $\frac{430F}{13-21}$ of the 7th August, 1886, were taken in hand, and 22½ out of 39 miles in all were completed during the year, the work on the remainder being well in hand.

7. In Bhira, the ditching of the boundary of the grants added during the year was undertaken, 36 out of 50 miles being completed.

8. Most of the Divisions report petty repairs of pillars and ditches, and recommend repairs for next season for which due provision will be made.

9. The Nepal boundary was cleared as usual.

10. In accordance with the suggestions contained in Resolution No. $\frac{618F}{560-4}$, paragraph 5, of the 16th December, 1886, the rules in force in the School Circle for inspection of boundaries have been adopted for this Circle, and the Divisional Officers mostly report their enforcement.

CHAPTER II.

SURVEYS AND WORKING PLANS.

Kheri Working Plan.

11. The field work ended last year with 5,340 acres having been completely counted out in one compact block.

12 I had the advantage of a consultation with the Inspector-General of Forests and Mr Broun (in charge of the Kheri Working Plan) at Dehra in October, 1886, and it was decided that it was quite unnecessary to count out the whole Kheri sál forest, as this first block of 5,340 acres had been, and that linear surveys of the remaining area, if well selected, and extending over a fair proportion of the whole forest actually counted out, would be fully sufficient.

13 Mr Broun started work about the middle of November

14 The area of sál forest was accepted as 80,000 acres, and it was decided that not less than what was done last year should certainly be done this year, notwithstanding that Mr Broun was not to have the assistance of any Forest School students, and that the 10,680 acres to be thus counted out, representing nearly 13½ per cent. of the total sál area, would be sufficient to count out thoroughly But as much more was to be done as possible.

15 Starting with these instructions Mr Broun did—

	851 9	acres in November.
	1,051·5	„ December
	1,831 6	„ January
	2 292·6	„ February.
	1 617 4	„ March
Total ...	8,345 0	

This gives very nearly 18 per cent of the total sál area Besides this in March a partial enumeration of I and II class trees only was carried over 4,585 6 acres of open forest, estimated to be equivalent to about 700 acres of complete enumeration

Roughly speaking 9,000 acres were done in 116 working days, a rate of 77 6 acres per day

16 Besides aiming for this season's work at doing half of the 13½ per cent of the total sál area, it was decided that each compartment should have its proportionate share of the total area enumerated. This was actually carried out, and the different lines were run in different directions so as to comprise every type of forest in each compartment.

17. The result of the enumeration survey is that we have statistics for 5,340 acres last season's work, closed forest, in one compact block 8,345 acres this season's work in linear surveys over the whole of the remaining 74,660 acres, of which 3,002 are in closed and 5,343 in open forest, and 4,585 6 partial, equal to 700 complete enumeration.

18 To obtain correct results it was necessary to get the correct area of the sál forest and of the phantas contained in it.

Two sub surveyors were deputed from the Forest Survey Branch, one joining on the 24th November, 1886, and the other on the 8th January, 1887. They were placed under the working plan officer, with orders to put in roads, wells, linear survey lines, and the outline of the sál forest, as well as the phantas contained in it.

Whenever the working plan officer or any of his parties came across a phanta, a rough sketch map indicating its position was sent to the surveyors

Thus it is not likely that any but very few and insignificant phantas escaped detection

19 The results of the enumeration survey may be briefly tabulated as below .—

(1)	Season 1885-86, closed forest	5,340	acres.
(2)	„ 1886 87 closed forest not burnt, 1884 ...	1,390	„
(3)	„ „ closed forest burnt, 1884	1,611 8	„
(4)	Total closed forest	8 341 8	„
(5)	Open forest	5 343 2	„
	„ I and II ...	4 585 6	„
	Total open forest	9,928 8	„

1886-87.

20. 1,611·8 acres closed forest burnt in 1884.

Per acre.	V.	IV.	III.		II		I		Total.
			Sound.	Unsound	Sound	Unsound.	Sound	Unsound.	
Sál	28 910	17·817	7 497	2 271	2 495	2 249	1 349	2·575	59 682
Asaina ..	2 337	3 191	2 349	0 426	0 327	0 331	0 457	0·269	10 171
1st class kokat .	11 514	10 049	1 789	0 625	0·247	0 236	0 117	0 174	24 741
2nd class kokat ...	1 183	1 884	1·111	0 298	0 137	0 110	0 029	0·029	4 782
Scrub	7 532	5·539	0·357	0 100	0 008	0 005	0 002	0 001	13 544
Grand Total ...		...	..	...	...	...	...	...	112 920

21 Total closed forest not burnt in 1884, 6,730 acres for both seasons :—

Per acre	V	IV.	III.		II.		I		Total.
			Sound	Unsound.	Sound	Unsound	Sound	Unsound.	
Sál ..	56·277	23 579	4 359	5·416	1 190	3 649	0 324	2·471	97 265
Asaina ..	11 129	7 996	1 868	1 677	0 448	1 192	0 172	0 865	25 146
1st class kokat ...	16 965	10 782	1 263	1 111	0 178	0 358	0 061	0·252	29 957
2nd class kokat ...	3 801	3 496	0·712	0 509	0 081	0 196	0 012	0 061	8 797
Scrub ...	13 651	6 633	0 278	0 238	0 009	0 014	...	0 002	20 891
Grand Total ...	...	...	..		...		...	...	181 996

22. Total area of the closed forest surveyed during the two seasons, 8,341 8 acres —

Per acre.	V.	IV.	III		II		I.		Total
			Sound	Unsound	Sound	Unsound	Sound	Unsound.	
Sál	50 023	22 369	4 985	4 808	1 442	3 382	0 522	2 491	90 004
Asaina ...	9 513	7 068	1 718	1 436	0·521	1 026	0 227	0 748	22·258
1st class kokat .	15 106	10 638	1 957	1 617	0 187	0 334	0 072	0 237	28 949
2nd class kokat ...	3 295	3 127	0 789	0 468	0 092	0 179	0 015	0 055	8 021
Scrub	12 469	6 422	0·289	0 212	0 009	0·012	0 001	0 002	19 415
Grand Total ...	...		...	...	...	.	...		168 642

Open Forest

1886-87.

23 Complete enumeration of 5,343 2 acres :—

Per acre	I	IV	III		II.		I.		Total
			Sound	Unsound.	Sound	Unsound	Sound	Unsound	
Sal	26 865	20 221	9 795	1·971	4 439	1 985	1·977	1·801	69·054
Asaina ...	3 817	3 193	2 792	0·364	1·077	0 325	0 517	0 215	12 300
1st class kokat ...	7 428	5 980	1 780	0 406	0·337	0 165	0 182	0 162	17 429
2nd class kokat .	1 745	2 999	1 400	0·225	0 900	0 091	0 018	0 083	6 733
Scrub	6 999	4 441	0 255	0 046	0·009	0 004	0 001	...	11·755
Grand Total ..	...	..	...	...	...	...	...	...	117·259

24. Average per acre over the 13,685 acres complete enumeration.

Open and closed forests for both seasons taken together.

Per acre.	V.	IV.	III.		II.		I.		Total.
			Sound.	Unsound.	Sound.	Unsound.	Sound.	Unsound.	
Sál	40·980	21·580	6 851	3·700	2·612	2·887	1·000	2·221	81 823
Asaina	7·288	5·555	2·137	1·017	0·788	0·782	0 340	0·540	19·367
1st class kokat ...	12 108	9 109	1 522	0·779	0·249	0·266	0·115	0 209	24·451
2nd class kokat ...	2·690	3 094	1·027	0 373	0·184	0 145	0·24	0·047	7·514
Scrub	10·383	5·649	0·276	0·144	0·009	0·009	0·001	0·001	16·434
Grand Total ...	...	...	...	...	...	...	...	...	149·579

25. Average per acre of 1st and 2nd class sál and asaina only over 13,685+ 4,585·6=18,270·6 acres open and closed forest for both seasons taken together:—

	II.		I.		Total.
	Sound.	Unsound.	Sound.	Unsound.	
Sál	3·344	2·557	1·213	1·986	9·101
Asaina	0 972	0 655	0·349	0·435	2·402

26. In comparing the tables in paras. 20 and 21 above, the following interesting facts are worthy of note.

The young trees of the IV and V classes of all species are much more abundant in the closed than in the open forests.

There are twice as many V class and one-third more IV class trees per acre in the closed than in the open forests, notwithstanding that in over 1,612 acres out of the 8,342 closed fire raged in 1884, thinning the young growth down to less than what it is in the open forest.

		V.	IV.	Per acre.
Sál ...	Closed	50·023	22·369	...
	Open	26·685	20·221	...
Asaina ...	Closed	9·512	7 068	...
	Open	2·817	3·193	...
1st class kokat ...	Closed	15·106	10 634	...
	Open	7·428	6 980	...
2nd class kokat ...	Closed	3 295	3·127	...
	Open	1·745	2·990	...
Scrub ...	Closed	13·469	6·422	...
	Open	6·999	4·441	...

27. Taking I and II class trees only the following results are obtained:—

		II.		I.	
		Sound.	Unsound.	Sound.	Unsound.
Sál*	Closed forest ...	1·442	3 382	0·528	2 491
	Open forest ...	4·842	1·864	1·794	1·561
Asaina ...	Closed forest ...	0·321	1·026	0·227	0·746
	Open forest ...	1·352	0·345	0·485	0·172
1st class kokat ...	Closed forest ...	0·187	0·334	0·072	0·232
	Open forest ...	0·327	0·165	0·182	0·162
2nd class kokat ...	Closed forest ...	0·198	0·179	0·015	0·055
	Open forest ...	0·200	0·091	0·038	0·083
Scrub ...	Closed forest ...	0·009	0·012	0·001	0·002
	Open forest ...	0·009	0 004	0·001	...

* The data for sal and asaina are obtained from an area of 9,238·8 acres, for the other species only from 5,343·2 acres.

28. From the above table it will be seen that in the total of sound and unsound or of the sound sub-classes alone, there are more large trees per acre in the open forest, but that taking the unsound sub-classes there are more trees of these in the closed forest.

This is probably due to the fellings of recent years, both selection and sleeper, having visited the closed forest more heavily than the open; and also to the open forest containing some of the finest portions of the Kheri forests, for example, those about the Mohán River.

Taking the closed and open forests together the average number of I class sál trees per acre is sound 1·090 unsound 2·221.

Taking the area of the sál forest to be 80,000 acres the stock would contain 9,704 sound and 15,888 unsound, or total 25,592 first class sál and 2,720 sound and 3,480 unsound, or total 6,200 first class asaina trees. The grand total of first class sál asaina trees would then be 31,792.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

Establishment.

29. *Superior staff.*—The circle was shorthanded as usual. No officer having filled Mr. Dansey's place, the Bahraich and Gonda Divisions had to be placed under Mr. Rebsch for the whole season, with the result that but little attention could be paid to Gonda, and to much of the work in Bahraich.

In both Divisions the administration has suffered. Both Mr. Rebsch and myself are of opinion that the revenue under grazing and minor produce might be considerably developed by increasing the strength of the superior staff. The best way of doing this is to give more Sub-Assistants to the circle, who by taking charge of Subdivisions not only give greater supervision, increase the revenue and keep down expenses, but are available for Divisional charges on emergency. Bahraich and Gonda ought never again to be placed for nearly a whole year under one Officer.

There is perhaps more room for development in Bahraich than in any other Division in Oudh, and it requires an Assistant to its Divisional Officer for itself instead of sharing its Divisional Officer with Gonda.

30. Kheri also has again been without an assistant.

31. If the revenue and expenditure of the five years from 1877-78 to 1881-82 be compared with the revenue and expenditure of the five years from 1882-83 to 1886-87, and the class of work of the first with that of the second five years, and the number of officers on an average in the circle during the first and during the second of these periods, some idea can be formed of how much we require more officers.

32. *Subordinate staff.*—The long promised proposals for the reorganization of the office and protective establishments, were sent up in February and are now before Government.

33. *General Protection.*—In pargana Puranpur of the Pilibhit Division an advance has been made in insisting on the right-holders taking out *ijázatnámas* for the produce they require, and they are strictly limited to the amounts entered in these passes. Thus it is that for the first time a really accurate return can be made of the amount of produce consumed by these right-holders.

34. The next step required is to limit the amount of the right to each individual or house or plough.

At present there is no such limit, and although the right-holders are supposed not to sell or barter, it is nobody's business to see to this, for the Forest Department is not strong enough to go outside its limits to prevent misappropriation of the produce given to the right-holders.

A still further step, and one essential to the well-being of the forest is that the cutting of all produce of right-holders should be done departmentally, the right-holders paying the cost of the cutting.

35. In Oudh the general protection is reported on the whole to be sufficient (except in the matter of grazing). This is because the people are so liberally treated in the way of privileges and have therefore so little reason to commit breaches of the forest laws.

But great difficulties exist about the grazing which is *not* entirely free.

36. The worst reports come from Bahraich, and new rules have been proposed and are now before Government.

It is bad enough to have to give grazing to special communities at less than the market value of the grazing: it is worse when we cannot even realise the grazing dues we are allowed to levy. We put on special men to guard the forests of Bahraich from illicit grazing, a method at once clumsy and expensive, when the law ought to do all that is required.

37. It is hopeless to protect our forests and forest revenues without the assistance of the Magistrates of the district. When the people get to think that the Magistrates do not consider illicit grazing a serious offence, and find themselves reluctantly punished with only trifling fines, it is small wonder that they often persistently refuse to pay their grazing dues. They defy the forest officials and deny that they graze. So common is this in Bahraich that this class of people is now well known under the designation of "inkúri," or those who refuse to pay.

38. Breaches of Forest Laws :—

	Prosecutions.			Convictions.	Acquittals.	Cases pending at close of the year.
	Pending from 1885-86.	New of 1886-87.	Total.			
1885-86	1	59	60	53	7	...
1886-87	...	108	108	106	2	.

There is a large increase in the number of prosecutions, viz., from 60 to 108

The increase has been entirely in Gonda, 24 to 42, and Bahraich 16 to 51. Of the 42 Gonda cases all were convicted and 40 out of the 42 were for illicit grazing.

Of the 51 Bahraich cases convictions were obtained in all, and against 96 out of 99 persons.

The grazing cases were only 6 against 23 persons. The fines inflicted against these 23 persons amounted to Rs. 72, or a little more than Rs. 3 each. This leniency pretty well explains and justifies the remarks in paragraph 37.

39. Cases compounded by Divisional Forest Officers :—

		Disposed of			
Pending.	New cases.	Convictions	Acquittals.	Total.	Pending.
1884-85 ...	...	25	25	.	25	...
1885-86 ...	...	44	43	1	44	...
1886-87 ...	...	146	122	20	142	4

Distributed among divisions this increase is in Pilibhit from 11 to 45

Bhira	10 to 73
Kheri	— to 5
Bahraich	2 to 2
Gonda	5 to 6
Gorakhpur	16 to 16
Total ...	44 to 146

The increase is entirely in Pilibhít and Bhira, and is attributed to greater strictness and increased inspection and checks.

40. *Fire conservancy.*—The following table shows the area attempted, burnt, and protected, the total cost during the season, the cost in pie per acre attempted and the percentage of failures:—

Divisions.	Area.			Cost during season.	Cost in pie per acre attempted.	Percentage of failures.
	Attempted.	Burnt.	Protected.			
Pilibhít	45,779	30,342	23,437	2,315	10·15	66 5
Bhira	34,292	27,197	7,095	1,450	8·1	79·3
Kheri	42,130	...	42,130	2 408	11·0	...
Bahraich	155,120	12,488	143,032	2,453	3 03	8·03
Gonda	99,127	6,774	92,303	263	0 5	0 7
Gorakhpur	74,590	36	74,554	2,624	0·75	0·05
Total ...	449,448	66,837	382,611	11,493	4·9	14·8

The area attempted has been increased from 357,448 to 449,448, or by 92,000 acres. The increase being entirely in Bahraich and Gonda.

The area burnt was 66,837 acres, or nearly 15 per cent. of that attempted.

Of this 66,837 acres, 47,539 acres in Pilibhít and Bhira.

Of the remainder 11,030 acres in Bahraich were in the new additions of the year, where the fire arrangements are of course far from complete.

Kheri lost nothing at all of its attempted area, and Gorakhpur only 36 acres.

The year therefore has been very favourable except in Bhira and Pilibhít, where fires have been most disastrous.

That in Bhira has been specially reported It was the work of an incendiary, during the blowing of a furious gale from the north-west, and it was not properly met by the forest establishment in front

There were eight distinct fires in the Pilibhít forests, some, through the carelessness of the fire establishment in not sufficiently extinguishing their own work.

But by far the most serious came from the east, across the Chuka nála and swamp. This was most unusual.

Fires in Pilibhít almost always come from the west, which in the side consequently mostly watched and guarded.

Fire protection in Pilibhít is exceptionally difficult The forests are mostly surrounded by private or open forest or by grass lands which burn every year.

The protected forests are miserably poor, and consist largely of the well-known Pilibhít chandars which, when severely cut down by the frost as was the case this winter, and with the large amount of dry grass in them, form as inflammable a forest as can be imagined. The fire season commences early and lasts late. Labour is seldom found in large quantities, so that when a fire does break out it is usually a bad one, and burns over a large area before sufficient men can be gathered to stop it. More elaborate precautions will have to be taken in future. The year has been particularly unfortunate.

The losses in Pilibhít and Bhira have seriously affected the proportion of area burnt to that attempted.

But the damage has been in the poorest forests, and in those parts attempted for the first time.

41. *Grazing*—The following three tables exhibit all the statistics about the grazing in the whole circle:—

Grazing non-privileged cattle.

Description.	Maunds per annum.	Bahraich.			Gonda.			Kheri			Bhira.			Pilibhit.			Gorakhpur.		
		Number as per books	Number equal to full year	Total maunds.	Number as per books.	Number equal to full year.	Total maunds.	Number as per books.	Number equal to full year.	Total maunds.	Number as per books.	Number equal to full year.	Total maunds.	Number as per books.	Number equal to full year.	Total maunds.	Number as per books.	Number equal to full year.	Total maunds.
Buffaloes, full year	...	17	17	...	120	120	...	354	354	...	57	57	...	7	7	...	2,025	2,025	...
,, 9 months	...	...	...	...	...	...	...	740	555	...	...	...	...	1	¾	...	...	...	...
,, 6 ,,	...	...	...	...	683	342	...	276	138	...	...	...	...	1,878	936½	...	3,076	1,538	...
,, 3 ,,	...	3,867	967	...	...	...	...	591	148	...	324	81	...	...	...	...	3,438	909	...
Total	...	67¼	984	66,420		462	31,185	...	1,195	80,662½	...	138	9,315	...	944½	63,720		4,472	3,01,860
Cows, full year	...	77	77	...	60	60	...	4,443	4,443	...	2,155	2,155	...	215	215	...	2,210	13,110	...
,, 9 months	...	...	...	...	...	...	...	6,021	4,516	...	...	...	...	...	...	...	...	...	...
,, 6 ,,	...	4,942	2,471	...	622	311	...	7 033	3,516	...	50	25	...	6,532	3,266	...	17,313	8,656	...
,, 3 ,,	...	7,006	1,752	...	12,211	3,053	...	17,060	4,265	...	4,091	1,023	...	...	...	...	12,955	3,239	...
Total	...	33¼	4,300	1,45,125	...	3,924	1,32,435	..	16,740	5,64,985	...	2,203	1,08,101½	...	3,481	1,17,484	...	25,005	84,39,919½
Sheep, full year	...	24,624	24,624	...	...	...	...	...	...	...	2	2	...	1,416	1,416	...	...	...	...
,, 9 months	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
,, 6 ,,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
,, 3 ,,	...	...	...	...	...	...	...	2,347	587	...	...	...	...	...	...	...	660	165	...
Total	...	13½	24,624	2,33,234	...			...	587	7,924½	...	2	27	...	1,416	13,116	...	165	2,227½
Hogs	...	13½	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	175½
Ponies	...	25	...	...	...	...	...	...	...	...	...	...	...	8	8	...	...	1	25
,,	...	...	...	91	2,275	...	...	...	...	...	...	...	...	80	25	825	...	...	...
Elephants	...	2,000	...	5	10,000	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	...	96	12,275		...	...	...	...	...	...	...	...	33	825	...	14	200½
Passing Cattle.																			
Buffaloes	...	2½	...	...	...	...	...	...	2,064	5,160	...	...	...	...	...	...	...	...	...
Cows	...	1½	...	...	...	...	...	...	51,843	64,428½	...	...	...	...	...	...	...	...	...
Sheep	...	½	...	...	...	...	...	...	442	221	...	...	...	...	...	...	...	...	...
Hogs	...	½	...	...	...	...	...	...	20	10	...	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	...	54,069	69,819½	...	...	...	...	...	...	...	...	...
Free grants to Tharus.																			
Buffaloes	...	75	...	...	...	...	...	...	1,724	1,29,300	...	...	...	...	...	...	...	...	...
Cows	...	37½	...	...	...	...	...	...	5,805	2,17,687½	...	...	...	...	...	...	...	...	...
Ponies	...	25	...	...	...	...	...	...	67	2,425	...	...	...	...	...	...	...	...	...
Sheep	...	15	...	...	...	...	...	...	510	7,650	...	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	...	8,136	3,57,062½	...	...	...	...	...	...	...	...	...
Total, non-privileged	...	...	...	30,064	5,57,054	...	4,386	1,63,620	...	20,7 27	10,80,454½	...	3,343	1,17,443½	...	5,028	2,01,145	...	29,656	11,48,207½
,, privileged	...	...	...	91,426	39,34,305	...	51,345	20,16,800	...	57,560	22,99,260	...	18,465	8,14 507½	...	...	...	...	...	...
Grand Total	...	...	...	1,21,490	44,91,359	...	55,731	21,80,420	...	1,38,287	33,80,314½	...	21,808	9,31,950½	...	...	...	...	29,656	11,48,207½

Description.	Grazing privileged cattle												Right-holders free.		
		Bahraich.			*Gonda.*			*Kheri*			*Bhira.*			*Pilibhit.*		
	Maunds per annum.	Number as per books.	Number equal to full year.	Total maunds.	Number as per books.	Number equal to full year.	Total maunds.	Number as per books.	Number equal to full year.	Total maunds.	Number as per books.	Number equal to full year.	Total maunds	Number as per books.	Number equal to full year.	Total maunds.
Buffaloes, full year	...	13,705	13,705	...	480	4 0	...	4,513	4,513	...	3,265	3,265	...	...	...	...
,, 9 months	...	...	...	...	..	...	...	21	16	...	..	...	...	...	...	...
,, 6 ,, ...	...	...	...	...	2,211	1,165	...	360	180	...	...	...	...	...	...	...
,, 3 ,, ...	...	6	1	...	...	...	...	814	203	..	43	11	...	...	...	...
Total ...	75		13,706	10,27,950	...	1,585	1,18,775	...	4 912	3,68,400	...	3,276	2,45,700	...	28,845	21,63,375
Cows full year	...	45,516	45,516	...	1,710	1,710	...	45,571	45,571	...	15,077	15,077	...	...	...	...
,, 9 months	...	...	...	...	...	...	...	187	140	...	..	...	...	...	...	...
,, 6 ,, ...	...	14,809	7,404	...	...	...	...	5,821	2,910	...	58	29	...	...	...	...
,, 3 ,, ...	...	...	...	...	...	...	...	8,490	2,123	...	204	51	...	...	...	...
Total ...	37½	...	52,920	19,84,500	...	1,7 0	64,125	..	50,744	19,02,900	.	15,357	5,68,327½	...	35,476	13,28 475
Sheep full year	...	4,282	4,282	...	8,610	8,610	...	451	451	...	32	32	...	...	...	...
,, 9 months	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
,, 6 ,, ...	...	...	...	...	...	...	...	779	390	...	...	...	...	...	...	...
,, 3 ,, ...	...	...	...	...	...	...	...	4,284	1,063	...	...	...	...	...	...	...
Total ...	1½	4 282	73,230	...	8,610	1,39,150	...	1,914	28,168	...	32	480	...	7,632	1,44,480
Ponies	25	...	...	...	...	...	...	...	...	...	...	...	...	...	863	21,575
Elephants	2,000	...	...	...	...	...	...	...	...	...	...	...	...	...	5	10 000
Balrampur concession.																
Buffaloes	75	...	2,712	2,03,400	...	6,020	4,51,500	...	...	...	...	...	...	...	...	...
Cows	37½	...	17,206	6 45,225	...	33,440	12,53,250	...	...	...	...	...	...	...	...	...
Total ...	...	...	19,918	8,48,625	...	39,440	17,04,750	...	...	...	...	...	...	...	...	...
Grand Total ...	...	...	91,426	39,34,305	...	51 345	20,16 800	...	57,560	22,99,460	...	18,465	8,14,507½	...	74,771	36,67,906
Total privileged cattle in Oudh ...	...	...	...	...	...	...	...	...	...	...	...	218,796	90,65,472½	...	...	...

	Loss on privileged grazing.									*Loss on free grazing to right-holders.*		
	Bahraich.			Gonda.		Kheri.		Bhira.		Pilibhit.		
	Rate.	No.	Rs. a. p.	No.	Rs. a. p.	No.	Rs. a. p.	No.	Rs. a. p.	Rate.	No.	Rs. a. p.
Buffaloes	0 4 0	13,706	3,426 8 0	1,585	396 4 0	4,912	1,228 0 0	3,276	819 0 0	0 8 0	28 845	14,422 8 0
Cows	0 1 0	59,920	3,807 8 0	1 710	106 14 0	50,744	3,171 8 0	15,157	947 5 0	0 3 0	35,426	6,642 6 0
Sheep	0 0 3	4,882	76 4 6	8,610	134 8 6	1,904	29 12 0	32	0 8 0	0 1 0	9,632	102 0 0
Ponies	...	...	...	...	...	...	...	...	...	0 2 0	863	107 14 0
Elephants	...	...	...	...	...	...	...	...	...	4 0 0	502	2,008 0 0
Total	...	...	6,810 4 6	...	637 10 6	...	4,429 4 0	...	1,766 13 0	...	...	23,274 12 0
Bairampur concession.												
Buffaloes	0 8 0	2,712	1,356 0 0	6,029	3,010 0 0	...	...	...	...	...	...	...
Cows	0 3 0	17,206	3,226 2 0	33,620	6,247 8 0	...	...	...	...	...	...	...
Total	...	...	4,582 2 0	...	9,257 8 0	...	...	...	...	...	...	...
Paid ...	...	...	2,538 10 10	...	5,231 12 2	...	...	...	...	...	...	...
Loss ...	...	...	2,043 7 2	...	4,025 11 10	...	...	...	...	...	...	...
Total Loss	...	...	8,853 11 8	...	4,663 6 4	...	4,429 4 0	...	1,766 13 0	...	...	23,274 12 0
Total loss on privileged cattle in Oudh ...	...	...	...	...	...	...	...	...	19,713 3 0	...	...	...

Certain grazing is privileged by the orders of Government. Privileged grazing exists in Oudh only, not in the North-Western Provinces.

The privilege consists in grazing at a lower rate than that levied from the general public.

42. In the grazing tables the first column for each Division shows the state of things according to the chauki returns, that is the number of cattle grazing at different rates.

But it sometimes happens that people prefer to pay quarterly, although their cattle may graze for more than one quarter.

Hence the same animals may appear twice or more in the chauki books.

Now, if the same animals are to appear more than once in the returns, and as it is impossible to identify them, I have in the second column for each Division reduced them all to full-year animals, by taking $\frac{3}{4}$ of those that pay for nine months, $\frac{1}{2}$ of those that pay for six months, and $\frac{1}{4}$ of those that pay for three months.

Then, by estimating how much grass is consumed by a full-year animal, and reducing all full-year animals, we arrive at the amount of grass consumed by each class and by all the animals grazing.

Now the cattle of privileged villages, since their homes are nearer the grazing grounds on the whole than those of non-privileged graziers, graze somewhat longer than the cattle of non-privileged villages.

In the rains no cattle, speaking broadly, graze within tree forests on account of the attacks of stinging insects. They frequent the edge of the forest, open spaces, broad beds of streams, &c., and in the case of privileged animals, they graze a good deal in village fallow land.

For these reasons I have estimated that a privileged animal grazes for 300 days in the year, and a non-privileged animal for 270 days in the year.

Next, I have assumed that a buffalo will eat 10 seers of grass, a cow or bullock 5 seers and sheep and goats 2 seers per day.

I have made many enquiries on the subject from all kinds of people, and my own is by far the lowest estimate of the daily consumption of a grazing animal.

At the above rates, then, the annual consumption of a privileged buffalo will be 75 maunds of grass, a cow $37\frac{1}{2}$, and a sheep 15. For non-privileged animals the factor of conversion will be respectively $67\frac{1}{2}$, $33\frac{3}{4}$ and $13\frac{1}{2}$ maunds per annum.

In my grazing tables the third column shows, in maunds, the total annual consumption in grass of each class of animal.

43. It will be interesting now to calculate the *value* of the grazing privilege, that is, how much the State sacrifices and the general tax-payer loses in giving this forest privilege to a special community. To take one Division as an example.

Privileged buffaloes in Bahraich number 13,706 full-year animals. These pay four annas instead of eight annas, the non-privileged rate. Hence the loss on buffaloes in Bahraich is 13,706 times four annas, or Rs. 3,426-8-0.

The loss on 52,920 cows paying two annas instead of three annas is one anna per cow, or Rs. 3,307-8-0.

The loss on 4,882 sheep, paying three instead of six pie is Rs. 76-4-6. And the total loss in the Bahraich Division by this grazing privilege is Rs. 6,810-4-6.

This is of course supposing that the same number of cattle would graze if there were no privileged rate.

44. The third table shows the loss on the grazing privilege for each of the four Divisions in Oudh proper.

There are other grazing concessions, which are not however regulated by the Oudh rules of 1879.

In Kheri we allow free grazing to the cattle of the Tharu villages inside and bordering on our forests. This is a departmental concession not ordered by Government and can be departmentally withheld on any abuse of the concession or general misbehaviour of the Tharus.

We insist upon a formal petition from the Tharus every year for the continuance of the concession, and the concession is formally sanctioned by the Conservator

45 Next there is the Balrampur grazing concession, regulated by Government order No 444 of the 7th May, 1879 This provides that not more than 45,000 oxen and 5,000 buffaloes may graze in certain of the Bahraich and Gonda forests at a fixed assessment of Rs 5,600.

If the number grazing falls below 50,000 a drawback of Re 1 for every 10 oxen and cows and the same for every 5 buffaloes is allowed For any excess there is a special tariff which is the same as the ordinary Oudh rates

This is of course practically a privilege similar to that obtaining in the rest of Oudh, but I have shown it separately as the concession is to cease on the 30th September, 1888.

Most of this concession falls upon the Gonda forests, and accounts for the small number of privileged cattle grazing in that Division.

With regard to non-privileged grazing the tables show the state of things sufficiently well.

46 It will appear that the total number of animals grazing in the four Oudh districts where privileges obtain is as below. I have taken full-year animals ; to take the returns from the chauki books would be misleading :—

	Bahraich		*Gonda.*		*Kheri*		*Bhra.*		*Total.*	
	Privileged	Non-privileged	Privileged	Non privileged	Privileged.	Non-privileged	Privileged	Non privileged.	Privileged.	Non-privileged
Buffaloes	13,706	984	1,585	462	4,912	1,195	3,276	158	2°,479	2,779
Cows	52,920	4,309	1,710	3,924	50,744	15,740	15,157	3,293	1,20,531	26,167
Sheep	4,882	24,684	8,610	...	1,904	587	32	2	15,428	25,273
Ponies	...	91	...	...	...	...	...	...	...	91
Passing										
Buffaloes $\frac{1}{37}$th	...	...	..	...	..	76	...	...	...	76
Cows $\frac{1}{75}$th	..	...	..	...	.	1,909	...	...	...	1,909
Sheep	...	...	...	...	...	16	...	..	...	16
Hog	...	...		...	...	1	...	...	...	1
Balrampur concession.										
Buffaloes	...	2 712	...	6,020	...	...	...	...	...	8,732
Cows	...	17,206	...	33,420	...	...	...	...	...	50,626
Free grazing Tharus.										
Buffaloes	..	...	...	...	..	1 724	...	...	...	1,724
Cows	...	...	...	...	...	5,805	...	...	...	5,805
Ponies	...	...	...	..	...	97	...	...	...	97
Sheep	..	...	...	...	...	510		...	...	510

47. Thus in Bahraich there are 71,508 privileged animals, 30,059 non-privileged, and 19,918 of the Balrampur concession—total 1,21,495.

The area of the Bahraich forests is 325 square miles of which 197 are under sál, 27 are miscellaneous forest, and 101 are sissu and khair forest.

If the whole number of 121,495 cattle had grazed in the 64,640 acres of sissu and khair forest there would be less than two animals per acre.

48. In Gonda there are 11,905 privileged animals, 4,386 non-privileged, and 39,440 of the Balrampur concession—total 55,731.

The classification of the reserved forests is 43 square miles of sál, 61 of miscellaneous forest, four of sissu and khair, and 46 of grass lands.

If all the 55,731 cattle had grazed in the 50 square miles, or 32,000 acres of inferior forest, there would here again be less than two animals per acre grazing.

49. In Kheri there were 57,560 privileged animals, 18,522 non-privileged, 54,069 cattle passing through to Nepal and grazing only ten days in the reserved forest equivalent to $\frac{1}{27}$ full-year animals or 2,002; and 8,136 free grazing Tharus' animals—total 86,220 animals, and the classification of the Kheri reserves is 150 square miles of sál, 13 of miscellaneous, 20 of sissu and khair, and 80 of grass lands —total 263.

If all these 86,220 animals grazed in the 100 square miles of grass lands and sissu and khair forest, again there would be far less than two animals per acre grazing.

50. In Bhira there are 18,465 head of privileged cattle, 3,343 of non-privileged cattle grazing this last year—total 21,808.

The forests in Bhira are classified as 98 square miles sál, khair 2, miscellaneous 2, and grass lands 62; 18,465 head of cattle grazing in 39,680 acres is more than two acres per head.

51. In all these four divisions then there are 285,254 head of cattle grazing and 200,320 acres of grass land available. If the grazing were confined to these grazing grounds there would be five acres available for every seven animals.

52. It is curious to note that, taking the Balrampur concession as a privilege and counting the Balrampur cattle as privileged cattle, the number of privileged to non-privileged cattle is in Bahraich 91,426 to 30,059; in Gonda 51,345 to 4,386; in Kheri, excluding passing and Tharus' cattle, 57,560 to 18,522; in Bhira 18,465 to 3,343—total 218,796 to 56,310.

53. From the point of view of revenue, the following are the main results:—

	Total number of full-year cattle grazing.	Total revenue as per Form 58.	Average rate per animal.
			Rs. a. p.
Bahraich	121,495	14,633	0 1 11·4
Gonda	55,731	6,901	0 1 11·8
Kheri	86,220	16,782	0 2 11
Bhira	21,808	3,383	0 2 6
Pilibhit	7,022	1,359	0 3 6·6
Gorakhpur	30,248	7,812	0 4 1 6

The comparatively high rate per animal received in Kheri is due to the revenue on passing cattle, which amounted to nearly Rs. 3,400 and to realisations of arrears of revenue, and in Bhira the absence of sheep and goats and their low rates of grazing raises the average per animal.

54. In Gorakhpur alone do we see the rate somewhat what it should be.

There we have the fullest elasticity of rates, buffaloes, for example, being charged from ten annas to Rs. 1-4-0 for the year, according to quality of grazing.

NATURAL REPRODUCTION.

55. *Pilibhit.*—The forests are chiefly of sál, and a very large proportion of them consist of chandar a kind of scrub-sál, generally supposed to be the result of partial clearing for cultivation.

Even in the better portions of sál forest there are but comparatively few seed bearers.

All the forests, sál and chandar, have suffered severely this year from frost and fire.

56. *Bhira.*—The same remarks as for Pilibhit are applicable here. The frost was everywhere very severe.

57. *Kheri.*—The sleeper operations are reported to have assisted reproduction in that the coarse grasses were much trampled down by the workmen, their carts and their cattle. A good fall of seed for the last two years coming after the ground had been thus, as it were, disturbed, has resulted in a plentiful crop of seedlings of one and two years of age. As in other divisions, frost did much harm this year.

58. *Bahraich.*—In Bahraich the site of the thinning of 1885-86, in the Nishangara forest suffered terribly from frost, which was unusually severe everywhere this year.

Reproduction in the open forests near Motipur is reported as hopeless until cattle grazing is stopped.

59. *Gonda.*—Naturally reproduction is reported good, except in the southern portions of the Tulsipur forests, where it is most discouraging.

The demand for poles and saplings by the privileged villages is enormous, and the grazing by the villages of the Balrampur estate is far too heavy.

60. *Gorakhpur.*—Natural reproduction good, grazing having diminished owing to the settlement operations. The land owners, fearing that their grass lands would be taxed, have in a great measure kept their cattle at home to graze it down.

To diminish the pressure on the Government forests the acquisition of the trans-Gandak Domakhand forests is urged, as well as the Majhar belonging to Raja Salamat Shah, and the bed of the Chelua nála.

61. *Artifical reproduction.*—There is no artificial reproduction except in Gorakhpur, where the Sakhui sissu plantations were extended by 430 acres, and blanks in the older plantations filled up.

It is not proposed to continue this plantation any more, at any rate just yet, as a splendid nucleus has now been formed from which the gradual reclamation of the surrounding grass plains into sissu forest may be hoped for by natural extension.

As soon as the maps of that part of the district are received from the settlement survey now at work, a completion report of the whole of this undertaking, with its cost, will be submitted.

The whole work reflects the greatest credit on Mr. A. Campbell, Assistant Conservator of Forests.

The revenue from the grass from off the plantation has realised in—

	Rs.
1882-83	800
1883-84	1,000
1884 85	1,500
1885-86	2,0 0
1886 87	3,100
	8,400

and in a few years more probably all the money sunk in making some 2,000 acres of good sissu plantation, will have been recouped by the sale of the grass alone.

Communications and Buildings.

62. *Roads.*—During the year 62 miles of new roads were completed, as below :—

Pilibhit	48 miles 5½ furlongs.		
Bhira	12	„ 2	„
Kheri	0	„ 0	„
Bahraich	0	„ 0	„
Gonda	0	„ 0	„
Gorakhpur	6	„ 4½	„
Total	62	4 11/20	

This added to 981 miles 4 furlongs previous gives a mileage of 1,044 for the circle.

Of the Pilibhit work, 39 miles 3½ furlongs were boundary roads in pargana Puranpur paid for out of demarcation money; but they are roads as well as boundaries.

63. During the last ten years Rs. 1,25,487 have been spent upon roads, or 3·76 per cent. of the gross expenditure of all kinds for the same period.

The different Divisions have contributed to this as below :—

Pilibhit	13,919, or 8·18	per cent. of its gross expenditure.
Bhira	8,914, or 9·34	„ „ „
Kheri	60,347	
Bahramghát	1,870	or 3 30 „ „ „
Bahraich	31,479 or 9·32	„ „ „
Gonda	4 011, or 3 93	„ „ „
Gorakhpur	4,948, or 1·58	„ „ „
Total ...	1,25,487, or 3·76	„ „ „

It is doubtful, considering the financial position of Pilibhit and Bhira, whether the large percentage in those two Divisions was justified.

The system of roads ought soon to be completed, and maintenance charges alone tolerated.

During the year Rs. 13,208 were spent on roads, or 3 47 per cent. of the year's gross expenditure, a little below the average. Of Rs. 13,028 these Rs. 912 were spent on construction, and Rs. 12,109 on maintenance.

64. *Buildings.*—During the year Rs. 12,102 were spent on buildings, of which Rs. 4,749 was on new construction, and Rs. 7,353 on maintenance of old construction.

No new completed houses were added to the list, the total remaining at 59.

65. In ten years Rs. 1,50,022 have been spent on buildings, or 4 49 per cent. of the gross expenditure during the same period.

The divisions have contributed to this as below :—

Pilibhit	11,621, or 6 63	per cent. of its gross expenditure.
Bhira	8,673, or 9·09	„ „ „
Kheri	58,482, or 2·93	„ „ „
Bahramghát	7,765, or 2·60	„ „ „
Bahraich	44,483, or 13·17	„ „ „
Gonda	9,266, or 9 09	„ „ „
Gorakhpur	14,732, or 4 71	„ „ „
Total ...	1,50,022, or 4·49	„ „ „

The Rs. 12,102 of the year is 3·22 per cent. of the expenditure of the year, a considerable reduction as against the average.

66. *Wells.*—Two wells have been completed during the year, bringing up the number to 115, and eight are in course of construction: Pilibhit one, Bhira two, Kheri four, Gorakhpur one.

The expenditure of the year under AVIIc, of which most goes to wells, has been Rs 3,213, or 0·86 per cent. of the year's expenditure.

The expenditure of ten years under this sub-head has been Rs. 26,705, or 0·80 per cent. of the gross expenditure.

CHAPTER IV

YIELD AND WORKING.

67. It has often been complained that the Forest Department timber forms are difficult to follow, if not unintelligible.

The following remarks may perhaps assist in making those understood which are attached to this report.

The three principal annual timber forms of the Code are Forms 54, 55 and 56.

68. Form 56 is the abstract of all the timber transactions of the year, which have been carried out departmentally, or by direct Government agency, and which have appeared on the books in sale and forest depôts. It is to timber what Form 59 is to money. It is the "Account Current" of timber. Thus, as Form 59 includes, besides cash balance and actual revenue of the year, also advances, inter-divisional and inter-departmental transfers, &c., so, Form 56, first showing the stock balance of timber, then the actual timber receipts of the year from the forests, also shows the transactions in depôt, as conversion, loss, wastage, transfer from depôt to depôt, and so on.

And so it must be borne in mind that the real timber receipts of the year, *viz.*, the receipts from the forests, form only part of Form 56 on the receipt side. To take the total at the foot of the receipt side as the new receipts from the forests, would be equivalent to adding, in the money forms, cash receipts to cross entries of advances, transfers, &c., to make the total receipts of the year.

So also the real disposals out of stock from only part of the disposal side of Form 56. Real disposals may be, against money, or timber used departmentally, or written off as worthless. Other disposals are transfers from depôt to depôt, conversion, &c.

The most important part of Form 56 is, therefore, on the receipt side, the stock balances and the new receipts from the forests, and on the disposal side, the disposals against money, and the stock balance of the year.

Again, it must be remembered that there is no direct correspondence between the timber receipts from the forest and the money received for the disposals, because the receipts are added to the balance, and the disposals are from the total thus found and may be in excess of, or less than, the new receipts.

69. Form 54 is intended to show the total yield of the forests, in timber and firewood only, in cubic feet. It shows no money value.

All timber and fuel newly received during the year, which have been brought on the books of the Department during the year, should find place in Form 54.

It includes, therefore, the timber and fuel of both the departmental or direct agency produce as shown in Form 56, and of non-departmental or indirect produce.

And it also shows the agency of the *removal*

Removal is not the same thing as *disposal.*

The produce of any cutting *when brought on to the books in a sale depôt or forest depôt* is thereby *removed*.

The *yield* may be, as Form 54 now stands, from selection fellings from thinnings or from clearances.

Removals may be by Government agency, by purchasers by right-holders or by free grant.

Disposals may be, against money, and of produce given gratis, as a concession, as a right, or as a grant.

70. Form 55, although cast in a different form, answers the same purpose for all produce except timber and fuel, as does Form 54 for those two products, value of the produce removed being also shown.

In considering Forms 54 and 55, all idea of *disposals* must be put aside. They deal with the outturn and the agency of its *removal* only. At the same time in Form 54 the removals by purchasers and right-holders, and in Form 55, the whole removals, are equivalent to disposals.

71. The following table will show where all the outturn of the forests is to be found.

Departmental.

Timber	In cubic feet	... Form 54.	Form 56.
Fuel ...	do. do.	... Form 54.	Form 56.
Free grants and rights	do. do.	... Form 54 }	Form under section 87 of Code.
	do. do.	... Form 55 }	
Minor produce, Grass and grazing	In maunds	... Form 55.	Form 56.
Drift timber	In cubic feet	... Form 54.	Form 56.

Non-Departmental.

Timber and fuel	do. do.	... Form 54	
Free grants and rights	do. do.	... Form 54 }	Form under section 87 of Code.
	do. do.	... Form 55 }	
Minor produce, grass grazing	(in maunds) ... Form 55		
Drift timber	In cubic feet	... Form 54.	

Thus there is no *code* form which shows *all* the yield of the year from the forests.

Form 56 shows the departmental yield. Form 54 shows the timber and fuel yield, departmental and non-departmental being added together.

Form 55 shows the grazing and minor produce yield, that of both systems being added together.

72. The following table shows the disposals of forest produce, sold and given away.

Table showing total disposals of all produce to purchasers and others.

	Pilibhit.				*Bhira.*				*Kheri.*				*Bahramghat.*		*Bahraich.*				*Gonda.*				*Gorakhpur.*		*Total.*			
	Purchasers.		Right-holders.		Purchasers.		Privileged villages.		Purchasers.		Privileged villages.		Purchasers.		Purchasers.		Privileged villages.		Purchasers.		Privileged villages.		Purchasers.		Purchasers.		Privileged villages and right-holders and free grants.	
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
R. I *a* c. ft,	2,745	211	...	...	475	42	...	...	2,51,677	1,93,572	...	...	2,,85,700 and Ms. 9,615	2,14,451	19,511	4,183	...	...	1,141	441	...	...	1,25,848	58,250	6,86,997 and Mos 9,615	4,71,150 ...	... ...	... ...
R I *b* c. ft,	64,168	1,358	...	...	8,610	50	...	...	...	...	...	...	103	21	...	...	...	...	...	...	...	...	64,925	1,958	1,37,806	3,386	...	...
R. I *c* mds,	10	2	...	...	1,059	785	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	50	73	1,119	860	...	...
R.III c. ft.,	1,831	917	...	...	...	53	...	...	...	154	...	...	96	2,591	171	3	...	...	2,672	671	...	...	605	917	5,375	5,306	...	...
R.II *a*. c. ft.,	49,727	2,001	10,65,488	27,957	12,471	614	36,460	724	21,630	4,778	2,36,781	5,035	...	...	1,68,244	27,911	13,24,014	22,968	1,19,878	8,617	1,32,761 2,000	8,116 500	14,782 ...	4,002 ...	3,79,732 ...	47,922 ...	27,95,477 2,000	64,800 500
R.II.*b*. c. ft.,	2,56,340	2,502	4,56,738	5,094	50,070	897	71,622	147	34,362	241	2,35,282	470	...	...	1,71,265	1,333	2,75,540	1,144	3,14,838	1,898	75,652	322	1,51,921	3,824	9,78,796	10,195	11,16,834	7,177
R.II *d* mds,	2,01,145	1,379	36,67,905	23,275	9,81,950	3,384	...	...	30,23,252	14,803	3,57,062	1,178	...	...	44,91,359	14,833	...	...	21,80,420	6,000	...	...	11,48,208	7,698	1,19,76,334	48,997	40,24,967	24,453
R.II.*e*. „	20,850	2,116	1,67,326	4,516	15,905	1,160	20,912	413	1,71,893	11,171	2,14,414	6,514	...	...	1,88,594	10,400	1,41,635	3,393	1,42,926	4,697	18,570	584	3,96,568	20,275	9,36,734	49,818	5,62,857	15,420

It will represent the yield from the forest as well, except for departmentally worked produce, RIa, *b* and *c* As these *disposals* come from stock, they are not the same thing as the *yield*.

Non-departmentally worked produce goes straight from receipts to disposals without passing through stock; hence in this case disposals are the same as yield

Departmentally worked produce goes into stock, and is added to stock balances, the disposals being from the total thus formed, and but rarely agreeing with yield

This is especially the case with railway sleepers. Of the figures in the line for R I *a*, as much as represents railway sleepers, is that which is brought on the books of the Department during the year, and does not tally in value with the money opposite Sometimes deliveries of sleepers are in excess of the money received for them, sometimes money is paid us in advance before delivery of the sleepers.

73. The following table shows the *yield* of departmentally worked produce, which, added to stock balances, makes the total out of which the disposals are taken.—

Table showing departmentally worked yield.

	Pilibhit	Bhira	Kheri	Bahraich-ghât.	Bahraich	Gonda.	Gorakh pur	Total
								Rs
Timber, cubic feet ...	1,869	1,518	2,12,754	...	63,623	1,141	73 996	2 54,076
Fuel, ditto ...	56,918	11 445	...	...	..		66,925	1,67,288
Minor produce, maunds ..	10	4,898	...	...	...	..	50	4,958
Drift timber, cubic feet .	1,831	...	...	96	171	2,672	567	5,337
Fuel, ditto ...	...	...	...	.	...	...	38	38

74. The total yield of the forests of the Oudh Circle is therefore seen to be—

	Departmental	Non-departmental.	Right holders, privileged villages and free grants	Total
				Rs
Timber, cubic feet	2,54 076	3,79 732	27,97,477	35,36,660
Drift, ditto	5 175			
Fuel, ditto	1,67,288	9 28 796	11 14,834	22 60 918
Grazing (maunds)	...	1,19 76 334	40 24,964	1,60,01 301
Minor produce (maunds) ..	4,958	9,36,734	5,62,857	15,04 549
Total cubic feet				57,97,578
Total maunds				1,75,05,850

This yield, distributed over 769,706 acres (see Form 49), gives an outturn of 7·5 cubic feet and 2,275 maunds per acre.

It is impossible to show the yield per acre in any other way, for instance, entirely in cubic feet, for a cubic foot of timber is very different from a cubic foot of grass, and it is difficult to put hides and honey into cubic feet.

It is, however, very well known that most, if not all, of the timber and fuel will have come from the forests classified as of sál, and most of the grazing from the open grass lands and khair and sissu forests

75 In making use of these tables of yield and disposals, there is another point to be borne in mind The money figures do not always tally with those in the money summary Form 58. This is for this reason: in nearly all the divisions, revenue, especially for RII, or non-departmental work, is taken in two or more instalments.

For example, a purchaser comes to a forest chauki and signifies his intention of taking out 100 bullis at Re 1 each, and he pays down Rs 100 as an advance, or deposit, or earnest-money When his 100 bullis are brought to the chauki to be examined, it is found that many of them differ from the dimensions laid down for

one rupee ballis. Some are found to be valued, according to the schedule of rates, at Rs. 2, 3 or 4. The bill is made out for Rs. 150 for example, and the purchaser, having already paid Rs. 100, now pays as second instalment the balance of Rs. 50.

And the books of each Range are thus kept—

	Rs
Value of articles disposed of at such and such rates, say	1,000
Deduct first instalments	300
Balance	700
Add new advances	400
Total revenue ...	1,100

So that, although only Rs. 1,000 worth of produce has been disposed of, the revenue paid into the treasury is Rs. 1,100, and there is as it were a debt against the range of Rs. 400 worth of produce paid for, but of which the extraction is not yet completed.

In the tables above the money values entered are the real values of the produce at the rates in use, and the debtor and creditor account against the Range or Division is ignored

The actual revenue taken and paid into the treasury is shown in Form 58.

76. The totals of the yield of departmentally worked produce are :—

	Cubic feet.
Timber	354,076
Drift	5,375
Fuel	167,282
	Maunds.
Minor produce	4,958

These figures will be found in Form 56 under the head of "received from the forests," and represent the actual yield of the forests, brought on to the books and worked by Government agency.

77. The remaining yield includes indirect or non-departmentally worked produce, and the produce given free—

	Cubic feet.
Timber	3,177,209
Fuel	2,093,630
	Maunds.
Grazing	1,60,01,301
Minor produce	14,99,391

These figures will not be found, as such, separately, in any form; but added to the figures of paragraph 76, the timber and fuel will be found in the *total outturn* of Form 54.

And because for indirectly worked produce disposals are equal to receipts, the figures of paragraph 77 will be found on the *removal* side of Form 54, for timber and fuel only, in three colums called "removed by purchasers," "removed by right-holders" and "free grants."

The figures for grazing and minor produce of paragraph 77 will be found in Form 55.

78. *Comparison of rates received for produce under RI and RII.*—Under departmentally worked produce, the revenue from drift has been Rs. 5,306 for 5,375 cubic feet. The amount of fuel in this is so small that it may be ignored in dealing with such large figures. And unfortunately all Divisions have not shown the cubical contents of all their drift produce. The men in charge of drift operations have not yet been taught to keep a very strict account of the measurements of the pieces of wood salved. In many cases, indeed, the pieces of wood salved are small and hardly worth more than an eye estimate of capacity.

I will therefore for the purposes of comparison add the drift figures to those of RIa. timber, because all drift in the Oudh Circle is departmental, leases having been

abolished; and it is seen that 692,372 cubic feet and 9,615 maunds sold for Rs. 4,76,457, while under R.II*a* 379,732 cubic feet sold for Rs. 47,922.

79. For reasons stated in paragraph 77, comparison between the rates per cubic foot under the two systems would lead to no useful result. It is only necessary to say that the outlay to produce the revenue under R.I*a* has been far greater than that to produce R.II*a*.

80. It is quite hopeless to say what this outlay is. In the first place, expenditure A.I*a* suffers under the same disadvantages as revenue under R.I*a*, in that money is spent on other than the actual year's timber, by bills of the previous year being paid as well as bills of the year, and work is done during the year in the form of advances to contractors and disbursers, which is not adjusted until the following year.

It is true, however, that a somewhat accurate comparison might be made by grouping several years' figures.

Again, all the outlay to produce R.I*a* is not contained in A.I*a*, there is a share of AVI, AVII, AIX and B., and what that share should be, has always been difficult to say.

81. In Government order No. 503F of the 7th June, 1879, an attempt was made to allot the A and B. charges between departmental work, non-departmental work and insurance or improvement, but the allotment did not satisfy anyone, and to make out Form 37 properly requires much more than an arbitrary distribution of the figures of Form 58 by the Conservator.

82. With regard to the disposals under RII, it is seen that for timber 3,79,732 cubic feet were sold for Rs. 47,922 and 10,65,458 cubic feet, valued at Rs. 27,959 were handed over to the Pilibhít right-holders, while 17,30,019 cubic feet, valued at Rs. 36,343, were taken by the privileged villages of Oudh, and 2,000 cubic feet, valued at Rs. 500, were given for district works in Gonda.

The value then of a cubic foot of timber sold by the State is 24·02 pie, that of a cubic foot given to the Pilibhít right-holder 5·03 pie, and of one to the privileged, villages 4·03.

83. The comparative value of a cubic foot of timber sold (exclusive of departmental timber) in the different divisions is:—

	Cubic feet.	Value.	Pie per cubic foot.
		Rs.	
Pilibhít	42,737	2,000	8·89
Bhira	12,471	614	9·44
Kheri	21,630	4,776	42·61
Bahraich	169,244	27,911	31·85
Gonda	119,878	8,617	13·89
Gorakhpur	14,782	4,002	51·96
Total ...	379,732	47,922	24·02

84. The comparative value of a cubic foot of timber given away free in the different divisions is:—

	Cubic feet.	Value.	Pie per cubic foot.
		Rs.	
Pilibhít	*1,065,458	27,957	5·03
Bhira	86,460	724	3·81
Kheri	236,784	5,035	4·08
Bahraich	1,324,014	22,966	3·33
Gonda	132,761	5,117	11·73
	†2,000	500	48·00
Total ...	2,795,477	64,801	4·45
	2,000	500	48·00

* Right-holders. † Free grants.

85. Similar figures for firewood sold are :—

	Cubic feet.	Value.	Pie per cubic foot.
		Rs.	
Pilibhit	256,340	2,502	1·87
Bhira...	50,070	396½	1·52
Kheri...	34,362	241	1 34
Bahraich	171,265	1,338	1·49
Gonda	314 838	1,898	1 15
Gorakhpur	151,921	3,824	4 83
Total ...	978,796	10,194½	1·99

86. And for firewood given away :—

	Cubic feet.	Value.	Pie per cubic foot.
		Rs.	
Pilibhit	*4,56,738	5,094	2 14
Bhira...	71,692	147	0·39
Kheri	2,35,382	470	0·38
Bahraich	2,78,540	1,144	0·79
Gonda	75,652	322	0·81
Total ...	1,14,834	7,177	1·23

‡ Right-holders.

87. And for minor produce sold :—

	Maunds.	Rs.	
Pilibhit	20,850	2,116	19·43
Bhira...	15,905	1,160	14·00
Kheri...	1,71,893	11,171	13·47
Bahraich	1,88,594	10,600	10·79
Gonda	1,44,926	4,697	6 30
Gorakhpur	3,96,566	20,275	9·81
Total ...	9,38,734	49,819	10·21

88. For minor produce given away :—

	Maunds.	Rs.	
Pilibhit	* 1,67,326	4,516	5·18
Bhira...	20,912	413	3·79
Kheri...	2,14,414	5,583	4·28
Bahraich	1,41,635	3,393	4·59
Gonda	18,570	584	7·97
Gorakhpur	...	...	...
Total ...	5,63,857	14,489	4·94

* Right-holders.

89. The grazing has been specially described in Chapter III. To complete the comparison of values in the different divisions, it is only here necessary to say that the value per maund is in :—

	Cubic feet.	Value.	Pie per cubic foot.
		Rs.	
Pilibhit	2,01,145 † 36,67,905	1,379	1·31 1·28
Bhira...	9,31,950	3,384	0·69
Kheri...	30,23,25x ‡ 357,062	14,893 1,178	0 92 0 63
Bahraich	44,91,359	14,833	0 63
Gonda	21,80,420	6,900	0 80
Gorakhpur	11,48,208	7,698	1·28
Total ...	1,23,33,396	50,175	0 78

† Right-holders. ‡ Free Grant.

90. It is now possible to show the whole yield of the forests in a condensed form.

Yield :—

	Departmental.	Non-departmental.	Right-holders.	Privileged village.	Free grants.	Total.
Timber, cubic feet	859,451	379,732	1,065,458	1,730,019	2,000	3,536,660
Fuel, cubic feet	167,788	978,796	456,738	656,096	...	2,2'0 918
Grazing, maunds	...	11,976,334	3,667,905	...	3,57,062	16,001,301
Minor produce, maunds ...	4,958	9,36,734	167,326	395,531	...	1,504,549

91. The detail by divisions is:—

Pilibhít :—

		Timber, cubic feet.	Fuel, cubic feet.	Grazing, maunds.	Minor produce, maunds.
Area, acres, 97,045 ...	Departmantal	3,640	88,918	...	10
	Non-departmental ...	42,727	256.840	2,01,145	20,850
	Right-holders	1,065,458	456,738	36,67,905	1,67,326
	Total ...	1,111,825	801,996	38,69,050	1,88,186
	Per acre	11·456	8 266	39·868	1 999

92. Bhira :—

		Timber, cubic feet.	Fuel, cubic feet.	Grazing, maunds.	Minor produce, maunds.
Area, acres, 96,651 ...	Departmental	1,518	11,445	...	4,898
	Non-departmental	12,471	50,079	9,31,950	15,905
	Privileged villages... ...	36,460	71,622	...	20,912
	Total ...	50,444	133,167	9,31 950	41,715
	Per acre	0·521	1 377	9·642	0·431

93. Kheri :—

		Timber, cubic feet.	Fuel, cubic feet.	Grazing, maunds.	Minor produce, maunds.
Area, acres, 168,296 ...	Departmental	212,754	...	...	..
	Non-departmental ...	21,630	84,362	30,23,252	1,71,893
	Privileged villages ...	236,784	235,282	...	2,14,414
	Free grants	...	...	3,57,062	...
	Total ...	471,168	2,69,644	33,80,314	3,86,307
	Per acre	2 799	1·602	20·085	22·95

94. Bahraich :—

Area, acres, 208,021 ...	Departmental	63,794	...	...	...
	Non-departmental	168,244	171,265	4,491,359	1,88,594
	Privileged villages ...	1,324,014	275,540	...	1,41,635
	Total ...	1,556,052	446,805	4,491,359	3,30,259
	Per acre	7·480	2·147	21·590	1·587

95. Gonda :—

		Timber, cubic feet.	Fuel, cubic feet.	Grazing, maunds.	Minor produce, maunds.
Area, acres, 99,137	Departmental	3,813	...	...	...
	Non-departmental	119,878	314,888	21,80,420	1,42,926
	Privileged villages ...	132,761	75,652	...	18,570
	Free grants	2,000	...	...	...
	Total ...	258,452	390,490	21,80,420	1,61,496
	Per acre	2·607	3·938	21·998	1·629

96. Gorakhpur :—

Area, acres, 100,556	Departmental	73,841	66,925	...	50
	Non-departmental	14,782	151,921	11,46,208	396,566
	Total ...	88,623	218,846	11,46,208	3,96,616
	Per acre	0 881	2·176	11·418	3 944

97. The rates per acre in different divisions can now be compared.

Rates per acre :—

	Pilibhit.	Bhira.	Kheri.	Bahraich	Gonda.	Gorakhpur.	Total.
Timber, cubic feet ...	11·456	0 521	2·799	7·480	2·607	·880	4·593
Fuel, cubic feet ...	8·206	1·377	1·662	2·147	3·938	2·156	2 937
Grazing, maunds ...	39·868	9·642	20·085	21·590	21·998	11·418	16·023
Minor produce ...	1·939	0 481	2 295	1 527	1 629	3 917	1·954

I give these figures for what they are worth, but it would be much better if the timber and fuel were put against the timber forests and grazing against grass-lands and sissu and khair forests.

98. The amount given away compares as below with the amount sold :—

	Sold.	*Given away.*
Timber	2,79,782	27,97,477 2,000
Fuel	9,78,796	41,14,884
Minor produce	9,36,734	5,62,857
Grazing	1,19,76,834	40,84,967

In grazing there is nothing given *free* but to the Tharus of Kheri and to right-holders of Pilibhit.

The *loss*, however, on privileged grazing is shown in paragraph 44.

My only regret now is that I cannot compare this year's yield and disposals with those of last year, as I have above, for want of establishment in my office.

99. The higher value of timber in Kheri and Bahraich than in Pilibhit and Bhira is due entirely to the greater size of most of the timber sold. In Gorakhpur it is due to the high value of produce of all kinds.

As stated in paragraph 101 below some attempts will be made during this next cold season to justify the estimate of cubical contents of different classes of timber sold.

100. *Firewood and charcoal.*—The comparatively high rate in Gorakhpur is due of course to no firewood being given free to privileged villagers as in Kheri, Bahraich and Gonda, or to right-holders as in Pilibhit. Thus all fuel consumers who cannot provide themselves from private forests purchase from the Government forests. Another point in favor of Gorakhpur is that there alone is there elasticity of rates. The Divisional Officer sells for what he can get. There is no fixed schedule of rates as in Oudh. Consequently in Oudh forest produce is rarely sold at its real market value.

101. I am not quite sure that the cubical contents of firewood shown are very accurate. The books are kept in cart loads of various capacities, in horse and pony and head-loads, &c., and the factors of conversion of these measures of capacity into maunds or into cubic feet are not very well authenticated.

It would be a good plan next cold season if the following experiment could be carried out in every Division for every measure of capacity.

Let, for example, several carts of two-bullock power be stopped, together, and in one place, emptied, at once weighed and then stacked. This would give maunds to the cart load and stacked cubic feet to the maund. Then the contents should be carefully reloaded into the carts, and the owners compensated for their detention, say, by letting the carts go free.

A standard of conversion of firewood into maunds and cubic feet stacked, might ultimately be arrived at for every division.

102. *Firewood to privileged villages and right-holders.*—The variations in the rates are very curious.

Yet the Pilibhit returns of free produce have been most carefully kept by Colonel Campbell this year. *Ijázatnámas* were introduced for the first time, and the demands of applicants entered on the form, together with the amount sanctioned by the Divisional Officer.

The values given in Kheri and Bhira, although so close, were assessed by different officers as well as those in Bahraich and Gonda.

Nevertheless I think the co-efficient, the factor of conversion, should be the sale value per cubic foot as in paragraph 79.

It is the fashion to assess the value of free produce below that of similar material sold. I do not see why there should be any difference.

103. *Minor forest produce.*—The revenue from what is called minor forest produce sold to purchasers has risen from Rs. 42,130 last year to Rs. 51,091 in this. The increase has been in Gorakhpur from Rs 10,977 to Rs. 20,145, and in Bahraich from Rs. 8,277 to Rs. 10,209. In other Divisions it has either been less or about the same.

In Gorakhpur the total estimated weight of minor forest produce is 3,96,566 maunds; of this thatching grass accounts for 3,79,422 maunds, rope grasses, reeds, canes, &c., accounting for most of the balance.

In Bahraich the weight is 1,88,594 maunds; of this thatching grass contributes 84,037 maunds, and khair wood used for boiling Cutch for 97,920 maunds.

In Kheri the outturn of minor produce sold was 1,71,893 maunds, of which 1,68,480 maunds consisted of khair wood for Cutch, and only 2,680 maunds of thatching grass.

In Gonda out of 1,42,926 maunds there were 54,315 of khair wood for cutch, and 77,828 maunds of thatching grass.

In Bhira the total outturn of minor produce sold to purchasers was 15,905 maunds, of which thatching grass formed 14,330 maunds, while in Pilibhit thatching grass weighed 13,309 out of a total of 20,850 maunds.

Thatching grass therefore forms the most important item of minor produce in weight and khair wood for Cutch in value, in those Divisions in which it is made.

	Pilibhit.	Bhira.	Kheri.	Bahraich.	Gonda.	Gorakhpur.	Total.
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Thatching grass ...	13,309	14,330	2,680	84,037	77,828	3,79,422	5,71,606
Khair wood ...	...	...	1,68,480	97,920	54,315	...	320,715
Other produce ...	7,541	1,575	733	6,637	10,783	17,144	44,413
Total ...	20,850	15,905	1,71,893	1,88,594	1,42,926	3,96,566	9,36,734

The values of the same materials are thus compared :—

	Pilibhit.	Bhira.	Kheri.	Bahraich	Gonda.	Gorakh-pur.	Total.
	Rs.	Rs	Rs.	Rs.	Rs.	Rs	Rs.
Thatching grass ...	667	278	67	701	752	18,049	20,514
Khair wood ...	...	...	8,494	4,896	2,716	...	16,036
Other produce ...	1,447	882	2,579	4,803	1,229	2,226	13,266
Total ...	2,114	1,160	11,170	10,400	4,697	20,275	49,816

104. The rates for thatching grass vary very much in the different divisions. The value seems greatest in Gorakhpur and Pilibhit.

Minor produce to privileged villagers, right-holders and free grants :—

	Pilibhit.	Bhira.	Kheri.	Bahraich.	Gonda.	Total.
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Thatching grass ...	1,12,615	19,204	1,33,406	1,21,130	11,824	3,88,169
Other produce ...	54,711	1,706	91,008	20,515	6,746	1,74,688
Total ...	1,67,326	20,912	2,14,414	1,41,635	18,570	5,62,857

Money value.

	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Thatching grass ...	2,816	243	1,454	3,038	246	7,787
Other produce ...	1,613	170	4,129	355	339	6,616
Total ...	4,429	413	5,583	3,393	585	14,403

105. The amount given away to privileged villages, right-holders, and free-grantees, compares as below with the amount sold.

	Sold.	Value.	Rate in pie per item.	Given away.	Value.	Rate in pie per item.
Timber, c. ft. ...	379,732	47,922	24·23	{ 2,797,477	64,300	4·44
				{ 2,000	500	48·00
Fuel, c ft. ...	978,796	10,195	1·99	1,114,834	7,177	1·23
Grazing, mds. ...	1,19,76,334	48,997	0·78	40,21,967	24,453	1·16
Minor produce, mds. ...	9,36,734	49,818	10·21	5,62,857	15,420	5·26

In the above table, the value of the amount given away is obtained from the assessments of Divisional Officers. No doubt, the Divisional Officer is generally the best authority to decide the value of the produce given. At the same time I cannot help thinking that it is the fashion to assess this produce rather too low. I do not see, unless it can be distinctly stated that produce given is decidedly inferior to produce sold, why the market value of the produce, as decided by the sale rates should not be used to assess the produce given away. Perhaps in the above assessments, that for timber, may be assumed as correct, but there is no reason to suppose the value of fuel, grazing, or thatching grass given away, to be less than that sold.

Thus, if the amount of free produce in cubic feet and maunds, were multiplied by the rates in paragraph 110, the value of the produce given free would be found much higher than the assessment of Divisional Officers.

The Table, however, tells its own tale. It is seen what the produce of the forests is, and how much of this we are allowed to sell for the benefit of the State, and how much is given away.

I wish to draw special attention to this, because, whenever a question of increased establishment arises, we are gauged by our actual revenue and actual surplus,

and what we *might* make, and what surplus we *might* put into the Government treasury is not considered.

Departmental Operations.

106. *Pilibhít.*—Fuel operations on the strip system were carried out in the closed portions of the Pilibhít forests known as Chauk, Gaibi, Dhamaila, and Mahofe.

Eighty-six acres were operated upon yielding 160 maunds, or 798 cubic feet, per acre; 12 acres were gone over in the open forest near Mahofe, yielding 169 maunds, or 846 cubic feet, per acre. The strips cut this year were, according to the nature of the forest, 16½, 22, and 24 feet, with equal intervals of forest left.

107. *Bhira.*—Departmental work was confined to the cutting and removal of a small quantity of dead and dying wood, and to the clearing of the railway line near Gola.

108. *Kheri selection fellings.*—The regular selection fellings were conducted as usual, 2,424 sál trees being felled in compartments 42, 43, part of 44, 50, 55, and 56. In addition, 284 asaina and 95 haldu were felled.

All these yielded 4,289 logs and pieces, cubing 205,466 cubic feet.

Sleeper operations were confined to the extraction of sawn sleepers from the forests to the places of delivery.

The sawing ceased last year.

109. *Bahramghát.*—The usual statement of receipts and execution of indents is given below :—

Year.	Balance at commencement of year.	Received during the year.	Total.	Executed during the year.	Cancelled.	Total.	Balance.	Remarks.
1885-86 ...	27,589	39,229	67,068	42,240	11,445	53,685	13,383	Since supplied 8,203 cubic feet.
1886-87 ...	13,383	33,156	46,539	38,877	3,785	42,660	3,879	
	−14,456	−6,073	−20,529	−3,363	−7,662	−11,025	−9,504	

110. *Bahraich.*—The departmental operations were confined to the carriage of the fuel resulting from last year's thinning in the Nishangara block to the river, and to the floating of it to Bahramghát. As the work was in full progress at the end of the year, and as no accounts could at that time be closed, nothing has been finally brought on to the books, and nothing can therefore be said about this work in this year's report.

111. *Gonda.*—Departmental operations were confined to the extraction of the refuse of operations of previous years.

112. *Gorakhpur.*—Sleeper fellings of 629 unsound sál trees, yielding 4,313 sleepers, was all that was undertaken, and this closed the sleeper operations in Gorakhpur. Nothing remains now but to sell the refuse of these works.

CHAPTER V.

FINANCIAL RESULTS.

113. The financial results of the year compare as below with the two previous years :—

	1886-87.	1885-86.	1884-85.
	Rs.	Rs.	Rs.
Receipts	6,59,400	6,61,712	7,77,021
Charges	3,76,120	3,03,198	5,50,758
Surplus	2,77,180	1,78,514	2,26,263

Although the receipts fall short of those of the previous year by Rs. 30,000, the charges are Rs. 1,28,000 less.

The receipts of 1885-86 contained advances amounting to Rs. 1,50,000, while the receipts of the year include only Rs. 50,000 of advances.

And the liabilities have been reduced from Rs. 97,404 at the end of last year, to Rs. 36,436 at the end of this.

Again, in the charges of Rs. 3,75,120 there are large sums included which should have been paid last year.

The money was earned last year, and there was provision for payment last year, but the accounts were not cleared in time.

This has been avoided as much as possible this year. Every possible bill of the year, that could be paid during the year has been paid, and we hand over next to nothing to be paid next year.

The liabilities on account of sleepers to State Railways have been reduced to Rs. 36,436 (and of this 15,000 have been cleared since the commencement of the new year).

The totals of the last ten years' work is shown in Appendices Nos. VII and VIII.

114. *Ten years work.*—In revenue, it is seen that 66 per cent. is taken by departmental work, 32 per cent. by indirect agency, and nearly 2 per cent. is from other sources.

There is little doubt that it has not always been clearly understood what revenue should be credited to I and what to II head of service.

The Code forms distinguish these two heads by the definition of *removal* from the forests by Government agency, or by consumers or purchasers.

Thus in the case of timber *felled* by Government agency, but sold on the spot, the charges would go to AI and the revenue to RII. Considering that these two main heads are always being compared the one with the other, and that conclusions unfavorable to departmental working are not infrequently drawn, it is evident that an authoritative definition is required other than what lies in the word *removal*.

In other Provinces, I understand that if *any* money is directly expended by Government on any produce, the revenue from the sale of that produce, whatever be the agency of removal, goes to I, or Government agency. It would be well if this were clearly laid down for the guidance of Divisional Officers, for it is not always possible to detect mistakes of this kind in the accounts.

The fluctuations of the revenue derived under I, Government agency working, during the last ten years, cannot very well be explained; except that the higher figures of the last five years are due to sleeper works, nor can much regularity be expected until we work on more rigorous lines under the provisions of working plans.

The revenue under *II* ought to be much more constant, other things being equal.

Under timber and fuel, RII*a* and RII*b*, the revenue of the last year is decidedly below the average of the last ten years, while under grazing and minor produce it is decidedly above.

The increase under minor produce has been most steadily progressive, and if this source of revenue were as well fostered everywhere as in Gorakhpur, this progression would continue, notwithstanding the threatened falling off in the supply of khair wood for Cutch.

Under expenditure A, the main outlay to produce revenue, is, of course under heads I and II, the latter, however, being principally in the form of temporary establishment.

115. About half of heads VI and VII and the whole of VIII may be looked upon in the light of insurance, capital sunk in the permanent improvement of the estate, as so to increase its producing power and therefore its selling value, at any moment.

The expenditure under VII and VIII has been very high, 9 per cent. in the former, and 5¾ per cent. in the latter case, out of the gross expenditure of the last ten years.

The total of 9 per cent. under VII, 5¾ per cent. under VIII, and say half of VI 1½, or about 16 per cent. in all, is perhaps not too high, only I should prefer to see the major portion under sub-heads AVIII*e* and AVIII*f*.

In course of time, when we shall be working mostly on working plans, it may be that most of the felling of timber and fuel is done in a concentrated form, under direct departmental agency, while as much as possible of the removal of the produce is effected by timber merchants.

116. I have not been able to prove its advisability from actual figures, (for want of time and establishment), but I believe our future policy will be to spend the minimum of money on *removal*. All *fellings* should be done departmentally, or at least under very close supervision, but, when once the material is cut, its disposal should be effected as much as possible from the site of the felling, without any further disbursement of Government money.

If, for example, we spend three annas on an item cut and carried departmentally to a sale depôt, where it fetches five annas, our gain is two annas. For non-departmental work if we spend only one anna and make three annas, our gain is still two annas, but the loss to us is the time, supervision, and recording of the carrying under the former system, and most of the expenditure will have been on the carrying, not on the felling.

Now in ten years, we have spent on departmentally worked produce Rs. 17,48,120 AI and we have made under RI Rs. 33,04,167. Under B we have spent Rs. 8,88,089. Add a third of this to the A.I charges and the figures stand Rs. 20,44,147 of expenditure to Rs. 33,04,167 of revenue, and by far the greater portion of the direct outlay of Rs. 17,48,120, will have been under carrying charges, not felling and cutting.

Under the non-carrying and felling system we have spent Rs. 81,503, and made Rs. 15,98,582, add again ⅓ of B. and the figures stand Rs. 3,77,530 of expenditure to Rs. 15,98,582 of revenues a gain of 323 per cent. on the latter and only 61½ per cent. on the former.

The non-departmental system, although apparently giving the best financial results, has not been the same guarantee of reproduction as the Government agency system.

I do not advocate the non-departmental system for a moment, as being superior to the departmental. On the contrary, I think very nearly all the work should be done departmentally; nevertheless, I would limit the outlay as much as possible by not carrying any produce before sale. The total figures of expenditure and revenue would be less, but the proportions would be better.

I do not mean these remarks to apply to the departmental carrying of the Kheri selection fellings to the Bahramghát saw mills, or to the departmental sleeper works, when the demand arises.

117. When examining the details of the revenue and expenditure in the Divisions, it is necessary to add Kheri and Bahramghát figures together. Bahramghát is only the principal port of Kheri and is a Division for convenience of administration only.

For the work of the year under review, the following facts seem worthy of note :—

	Pilibhit.	Bhira.	Kheri Bahram-ghát.	Bahraich.	Gonda.	Gorakhpur.
Revenue	11,478	7,011	446,734	59,157	25,971	102,047
Expenditure ...	30,260	10,134	209,162	37,793	13,020	54,210
Proportion ...	37·9	70·	213·6	156·5	199·5	188·2

This means that for every Rs. 100 expended, Kheri, with its sale depôt Bahramghát, has made 213·6, Gonda 199·5, Gorakhpur 188·2 and Bahraich 156·5.

For Bahraich it is only fair to state that during the year money has been spent on fuel operations, and there is as yet, no revenue per contra. This will appear in 1887-88. It will never happen that a comparison based on one year's working alone will be a good one.

118. The figures for the last ten years are :—

	Pilibhit.	Bhira.	Kheri Bahram-ghát.	Bahraich.	Gonda.	Gorakhpur.
Revenue	95,794	57,126	33,35,984	646,073	216,940	642,530
Expenditure ...	170,199	95,442	21,34,869	337,889	101,969	313,044
Proportion ...	56·2	59·9	159	1,91·3	207	205·2

These figures prove that the divisions which spend least in *carriage* of forest produce give the best proportions of revenue to expenditure.

119. Pilibhit and Bhira have always been conducted at a loss and the proportions for the year 1886-87 are worse than for the average for ten years.

In Pilibhit, of course, the cause is not far to seek. This year's figures have already shown (paragraphs 72, 91) that out of disposals of 299,067 cubic feet and 2,21,995 maunds for which Rs. 11,478 were actually realised, the real produce from the forests has been 1,522,196 cubic feet and 1,67,326 maunds, value Rs. 87,480 *more*, given to the right-holders. So that the total revenue, had all produce been paid for, would have been Rs. 48,958 instead of Rs. 11,478, and there would have been a profit of Rs. 18,698 and the proportion of expenditure to revenue would have been as Rs. 100 to Rs. 161.

Unfortunately, I have not as accurate figures of the value of produce given to right-holders in previous years as I have for this last year ; but this year, the amount of produce given to right-holders has been more than four times that which could be sold on behalf of Government.

It is a question of course how far it is fair to burden the general tax-payer with the expense of supplying a special community with forest produce.

Pilibhit is officered and maintained on a similar scale to the other Divisions. It has its buildings and its roads, its fire protection and protective establishment and for all this the right-holders who get produce valued at four times the share which comes to Government, pay not a penny. The estate is administered for them free of cost, money is sunk on permanent improvements, the selling value of the estate is far greater now than it was ten years ago, it is ditched and bounded and protected by law from encroachment and abuse and all this costs the right-holders nothing.

It would be far cheaper for the State and better for the general tax-payer, if the whole estate were yielded up to the tender mercies of the right-holders.

If they have a right to the natural produce, they cannot have a right that the general public shall maintain the estate for them at a high degree of productiveness and at the general cost.

The least that can be done is that the produce shall be cut departmentally, the right-holders remove what has been given them *after paying the expenses of cutting*, and that the rights shall be defined at so much for each individual, or house, or plough.

At any rate some decision should now be come to about the future of Pilibhit as a forest estate. If the right-holders are to contribute nothing to the expenses of the estate which supplies them, if their rights are to be no more strictly defined than by the words 'their requirements,' with no one to limit the requirements, then it is doubtful whether we are justified in sinking money in roads, buildings, fire protection, and general protection.

In Bhira, it is pretty much the same thing; a poor property comparatively which yielded Rs. 7,011 worth of produce to the State and Rs. 3,049 to the privileged villages, total Rs. 10,060 against an expenditure of Rs. 10,134.

The argument about curtailing the expenses in some reasonable proportion to the expenditure is much stronger here. It is true that it is said that Bhira has not been worked up to the measure of its capacity, nevertheless I doubt very much the lawfulness of spending 3 per cent. under A VI *b*, 21·66 per cent. under A VII and 18·30 per cent. of the gross expenditure under VIII as is shown by the total Bhira figures since 1879-80, since when it first had a separate history.

Forest insurance, in the form of sinking capital in improving the estate is all very well, but it should not after all bear so high a per centage as 42 of the gross expenditure. It is wrong I think to make roads and build houses before they are wanted.

120. I have already shown how during the last year (which is by no means abnormal) we have given away in the whole circle nearly 28 lakhs of cubic feet of timber against about 3¾ lakhs sold, 11 lakhs of fuel against 9¾ lakhs sold, five and a half lakhs of minor produce against 9½ lakhs sold, and I have shown the loss on the grazing both privileged and granted to right-holders.

It is as stewards and not as foresters that we are concerned with the money value of the yearly out-put of the forests. It is of no concern to the *forester* whether his produce is sold for the benefit of the proprietor, or given away for half its market value, or given away gratis. These things concern only his stewardship of the estates given him to manage. It would not be fair therefore to judge the *forester* by the results of his stewardship as guaged by the money he spends and the money he is allowed to make.

CHAPTER VI.

GENERAL REMARKS.

121. Mr. Allan in Kheri has again worked single-handed. The carriage of sleepers has nearly been completed. He has kept up his enormous office work in his usual excellent style. Fortunately the compactness of his forests enables him to personally look after the out-door work as well.

Lieutenant-Colonel Campbell has had charge of the thankless work in Pilibhit and Bhira. He has been unfortunate in his fire conservancy, but has improved general strictness and checks on working all round.

Mr. A. Campbell, in Gorakhpur, has done excellently. His sissu plantations would be a show sight anywhere. But the real merit of his works is to be seen in the comparison of the revenue and expenditure at the commencement and at the end of his work in Gorakhpur; and in a year or two he will make from his thatching grass alone as much revenue as was made ten years ago from all the sources of the

Gorakhpur revenues. This has been achieved by nothing else than the most unremitting and personal attention to every single detail of the administration.

Mr. Rebsch had the whole work of two Divisions during the entire year, a thing which was never intended and which should never recur, as it is more than any man can manage with the present scale of establishment. Nevertheless he has solved the question of carriage from the Motipur forests to the Kauriala.

Babu Kanhaiya Lal has successfully conducted the Bahramghât saw mills, he has kept down expenditure and maintained a high average of work.

Babu Raghunath Pathak, a passed student of the Dehra Dún Forest School, maintained an excellent reputation and was promoted to Sub-Assistant Conservator of Forests.

Babu Raghubar Dayal Bajpai has worked most assiduously, and most excellently and is most valuable in every way.

The office establishment is most hopelesly unable to cope with the present work and must absolutely be increased.

R. WHITTALL,

Offg. Conservator of Forests, Oudh Circle.

ANNUAL STATEMENTS.

ANNUAL FORM No. 49.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Area of reserved, protected and unclassed state forests and waste lands, 1886-87.

Division.	Range.	Civil District or territory.	Name of forest.	Area on 1st April, 1886.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March, 1887.		Number and date of Notification of addition or transfer.	Remarks.
				Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
				(a) *Area of reserved forests.*							
Pilibhit Division ...	...	Pilibhit District ...	Pilibhit Division ...	97,041	152	...	...	97,045	152		
Bhira ditto ...	...	Kheri ditto ...	Bhira ditto ...	91,598	143	5,053	...	96,651	151	Nos. $\frac{183}{324-31}$ and 293F., dated 2nd April and 5th June, 1886, respectively.	5,053 acres in grants Thurburnpur and Mailani No. 2 have been added.
Kheri (Trans-Sarda) Division.	...	Kheri ditto	Newalkhar Sub division.	168,293	263	3	...	168,296	263	...	23·7 acres having been taken over by the Public Works Department instead of 27 acres as shown in 1884-85, in accordance with G. O. No. 792F. of 26th October, 1884, and No. $\frac{486}{215-1}$ F. of 1st November, 1884.
			Khairigarh ditto ...								
Bahraich Division,	...	Bahraich ditto	Motipur ditto ...	208,021	325	...	...	208,021	325		
			Bhinga ditto ...								
Gonda ditto ...	...	Gonda ditto ...	Gonda Division ...	99,258	154	879	...	99,137	155	No. $\frac{486F}{647-57}$ dated 10th September, 1886.	346 acres in grant Yakub Bankat and 583 acres in grant Ashrafabad have been added.
Gorakhpur ditto ...	...	Gorakhpur ditto ...	Gorakhpur ditto ...	100,556	157	...	...	100,556	157		
			Total ...	761,771	1,194	5,935	...	769,706	1,203		
				(b) *Area of protected forests.* *Nil.* (c) *Area of unclassed state forests and waste lands.* *Nil.*							
			Grand Total ...	7,68,771	1,194	5,935	...	7,69,706	1,203		

Naini Tal: The 16th July, 1887.

R. WHITTALL.
Offg. Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 50.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Prosecutions for breaches of Forest Rules during 1886-87.—*I.—Prosecutions in the Courts of Law.*

Forest Division and Civil District.	Cases pending from 1885-86.	NEW CASES OF THE YEAR.					Total cases.	DISPOSED OF DURING THE YEAR.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Pilibhit Division ...	...	...	2	...	...	2	2	2	6	...	...	2	6	
Pilibhit District ...														
Bhira Division ...	...	...	1	...	2	3	3	3	3	...	1	3	4	
Kheri District ...														
Kheri Division ...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Khori District ..														
Bahramghát Division ...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Bara Banki District ...														
Bahraich Division ...	...	2	43	6	...	51	51	51	96	...	3	51	99	
Bahraich District ...														
Gonda Divison ..	...	...	2	40	...	42	42	42	43	...	...	42	43	
Gonda District ...														
Gorakhpur Division ...	...	1	4	...	5	10	10	8	17	2	5	10	22	
Gorakhpur District ...														
Total ... 1886-87	...	3	52	46	7	108	108	106	165	2	9	108	174	
1885-86	1	1	28	23	8	59	60	53	93	7	14	60	107	
Difference ...	1	+2	+24	+42	−1	+49	+48	+53	+72	−5	−5	+48	+67	

Naini Tal:
The 15th July, 1887.

R. WHITTALL,
Offg. Conservr. of Forests, N.-W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 50A.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Prosecutions for breaches of Forest Rules during 1886-87. *II.—Cases compounded by Divisional Forest Officers.*

Forest Division and Civil District.	Cases pending from 1885-86.	NEW CASES OF THE YEAR.					Total cases.	DISPOSED OF DURING THE YEAR.						Cases pending at close of year
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
								Cases	Persons.	Cases.	Persons.	Cases.	Persons.	
Pilibhít Division Pilibhit District	...	...	24	9	12	45	45	35	91	9	53	44	144	1
Bhúra Division Kheri District	...	...	42	25	3	70	70	56	93	11	17	67	110	3
Kheri Division Kheri District	...	...	4	1	...	5	5	5	5	...	...	5	5	...
Bahramghát Division Bara Banki District	...	...	...	...	..	...	...	..	...	...	...	..	...	...
Bahraich Division Bahraich District	...	...	1	1	...	2	2	2	2	...	...	2	2	...
Gonda Division Gonda District	...	...	2	6	...	8	8	8	31	...	...	8	31	...
Gorakhpur Division Gorakhpur District	...	...	13	2	1	16	16	16	51	...	...	16	51	...
Total ... 1886-87	...	...	86	44	16	146	146	122	273	20	70	142	343	4
1885-86	...	...	38	3	3	44	44	43	103	1	1	44	104	..
Difference ...	...	...	+48	+41	+13	+102	+102	+79	+170	+19	+69	+98	+239	+4

Amount of Compensation realised from cases compounded by Divisional Forest Officers —

	Rs.	a.	p.
Pilibhít	215	0	0
Bhúra	313	0	0
Kheri	19	0	0
Bahraich	16	0	0
Gonda	96	0	0
Gorakhpur	325	0	0
Total 1886-87 ...	989	0	0
„ 1885-86 ...	194	0	0
Difference ...	+795	0	0

Naini Tal:
The 15th July, 1887.

R. WHITTALL,
Offg Conservr. of Forests, N.-W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 51.—[Prescribed]

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Area of Forest Tracts protected from Fire during the dry season, 1887,—*to accompany Report for* 1886-87.

Division.	Forest Tracts	Year in which protection commenced.	Area actually protected up to 15th June, 1886.	During dry season of 1887.			Cost during the season.
				Area attempted to be protected.	Failures.	Actually protected.	
Pilibhit ...	North Pilibhit ...	1880	18,106	20,589	4,269	16,320	2,315
	East ,, ...						
	South east ,, ...						
	Mama Kote ...	1881	18,056	16,830	11,057	5 773	
	Dhaurra Ghát ...	1886	4,808	6, 60	5,016	1,344	
	Total ...	...	36 970	41,779	20,342	23,437	2,315
Bhira ...	Marha	1887	15,030	15,030	19 469	3,461	1,450
	Mensiesganj	1885	7 114	7,114	7,114	...	
	Khareta	1885	2,818	3,884	200	3,634	
	Kaptaura and Menzies ganj.	1886	7,040	7,414	7,414	...	
	Total ...	...	32,902	36,292	27,197	7,095	1,450
Kheri ...	Dudua home block 1st or Nawal Khar sub division.	1872	22,141	22,290	...	22,290	1,519
	Kusumbhia home block 2nd or Kharigarh Sub-division.	1881	19,829	19,840	...	19,840	879
	Total ...	...	41,970	42,130		42,130	2,408
Bahraich .	Motipur Range ...	1876	47,160	62,720	472	62,248	736
	Chakia Charda ...	1875 to 85	23 140	83,040	4,128	18,912	340
	Bhinga	1875 to 76	59,810	69,760	7,886	61,872	1,358
	Total ...	..	130,210	155,520	12,488	143,032	2,434
Gonda ..	Section I to IV ...	1880	24,460	99,137	6,774	92,363	263
	Nawabganj	...	3,201				
	Total ...	...	27 661	99,139	6,774	92,363	263
Gorakhpur ...	Ramgarh Tilkonia .	1875	5 754	6,754	...	6,754	2,614
	Nagwa		6,900	6 900		6 900	
	Bonari and Jagpur .		22 281	22 282	..	22,282	
	Dudhai .. .		8,6 0	8,600	26	8 574	
	Bhillampur and Banko ..		4,154	4,154	...	4,154	
	East Lehra		7,600	7 600	...	7,600	
	West ,, . ..		12,200	12,200	10	12,190	
	Bhari bahsi and Bhari-babban		6,000	6,000	...	6,000	
	Tota .	...	23,570	74 590	36	74,554	2,614
	Grand Total, { 1886-87 ...	...	345,263	449 448	60,837	389 611	11,499
	{ 1885-86 ...	...	251,490	357,448	12,165	345,283	11,589
	Difference ...	...	+93,793	+92,000	+54,672	+37,328	—90

Note.—This form is for the dry season, and not for the financial year, and therefore the date up to which expenditure is included must be filled in to suit the circumstances of each circle

Naini Tal

Dated the 30th July, 1887.

R WHITTALL

Conservator of Forests, N-W P. and Oudh, Oudh Circle.

ANNUAL FORM No. 52.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Area of Plantations, 1886-87.

Division.	Name of plantation.	Area in acres. On 1st April, 1886.	Added during the year.	Excluded during the year.	Area on 31st March, 1887.	Receipts Of the year.	Charges Of the year.	Remarks.
Bahraich ...	Nishangara	11	...	...	11	...	...	
	Kain	5	...	...	5	...	...	
	Dundra ...	2	...	...	2	...	...	
	Ponsonbyganj	1	...	...	1	...	...	
	Raotara ...	...	...	...	...	...	...	
	Total	19	...	...	19	...	...	
Gorakhpur ..	Ramgarh	303	...	...	303	...	323	
	Sonari ...	200	...	...	200	...	52	
	Sakhui ..	1,400	430	...	1,830	...	2,916	
	East Lehra	...	40	...	40	...	381	
	Total	1,903	470	...	2,373	...	3,672	
	GRAND TOTAL	1,922	470	...	2,392	...	3,672	
	Cultural Operations.							
Pilibhit ...		...	...	...	...	...	...	
Bhira ...		17	...	...	17	...	55	
Kheri ...		33	...	...	33	...	269	
Bahraich ...		5	...	...	5	...	...	
Gonda ...		...	...	...	...	...	...	
	Total	55	...	...	55	...	324	
	GRAND TOTAL	1,977	470	...	2,447	...	3,996	

NAINI TAL:
The 15th July, 1887.

R WHITTALL,
Offg. Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 53.

Forest Department, N.-W. P and Oudh, Oudh Circle.

Trees felled or girdled by Government Agency during the year 1886-87.

Division	Trees felled or girdled. Description.	Number.	Remarks
	Selection fellings		
Kheri Division ...	Sál	2,474	
	Asaina	284	
	Haldu	95	
	Total ...	2,803	
	Sleeper fellings.		
Gorakhpur Division ...	Sál (crooked and rolled) ...	629	
	Total ...	629	
	Grand Total of selection and sleeper fellings	3,432	

Abstract of the Circle.

	1st Class	2nd Class	3rd Class	4th Class.	5th Class	Total of each kind of trees	Remarks
	Over 6′ in girth	6′-4½ in girth.	4½′-3 in girth	3′-1½ in girth	Under 1½ in girth		
Sal	2,483	50	570	...	...	3,053	
Asaina ...	284	...	...	...	...	284	
Haldu	95	...	...	...	...	95	
Total, 1886 87 ...	2,812	50	570	...	...	3,432	
Total, 1885 86 ...	11,943	10,811	15,400	...	...	38,154	
Difference	−9,131	−10,761	−14,830	...	...	−34,722	

Naini Tal.
The 15th July, 1887.

R WHITHALL,
Offg. Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 54.

Forest Department, N.-W. P. and Oudh, Oudh Circle.

Outturn of Timber and Firewood during the year* 1886-87.

Division.	Description of materials.	Outturn in cubic feet.								Remarks.
		Selection feelings	Clearances.	Thinnings	Total.	Removed by				
						Government Agency.	Purchasers	Free grants	Right-holders.	
	1 — Reserved Forests.				Rs		Rs			
Pilibhit ...	Sál wood cubic feet	...	65,792	90	65,882	90	595	...	65,257	
	Poles ditto	...	3 39,2 6	269	3,39 595	369	595	...	3,38,621	
	Saplings ditto	...	6,63,579	1,850	6,64,929	1,350	23,163	...	6,40,416	
	Manufactured articles cubic feet	...	1,131	...	1,131	...	1,131	...	.	
	Miscellaneous wood ditto		38,467	...	38,467	...	17,303	...	21,164	
	Drift wood of sorts	...	1,831	...	1,831	1,831	...	...	...	
	Total, Timber	...	11,10,016	1,809	11,11,825	3,640	42,727	...	10 65,458	
	Firewood	...	7,13,078	88 918	8,01,996	88,918	2,56,340	...	4,56 738	
	Total, Timber and Firewood	...	18,23,094	90,727	19,13,821	92,558	2,99,067	...	15,22 196	
	1 — Reserved Forests									
Bhira ...	Poles, &c., cubic feet	...	39 845	1,435	41 280	1,435	3,385	36,460	...	
	Miscellaneous ditto	...	9,086	78	9,164	78	9,086	...	...	
	Total timber, ditto	...	48,931	1,513	50,444	1,513	12,471	36,460	.	
	Firewood, ditto	...	1,21,692	11,445	1,33,137	11,445	50,070	71,622	...	
	Total, Timber and Firewood	...	1,70 623	12,958	1,83 581	12,958	62,541	1 08,082	...	

		I.—Reserved Forests.									
Kheri ...	Sál timber	...	183,638	26,774	...	2,10,412	183,638	13,387	13,387	...
	Asaina ,, ...	...	14,870	...	...	14,870	14,870	...	...	...
	Haldu ,, ...	...	6,958	...	...	6,958	6,958	...	...	...
	Sissu ,, ...	...	...	39	...	39	...	39	...	...
	Kaim ,, ...	...	...	40	...	40	...	40	...	...
	Jamun ,, ...	...	...	95	...	95	...	95	...	...
	Chanjan ,, ...	...	...	48	...	48	...	...	48	...
	Manufactured articles of sál and asaina	...	...	5,526	...	5,526	...	5,272	254	...
	Miscellaneous poles and posts	...	...	2,33,180	...	2,33,180	7,288	2,797	223,095	...
	Total, Timber	...	205,466	2,65,702	...	4,71,168	2,12,754	21 630	236,784	...
	Firewood	...	...	2,69,644	...	2,69,644	...	34 362	235,282	...
	Total, Timber and Firewood	...	205,466	5,35,346	...	740,812	2,12.754	55,992	472,066	...
	I.—Reserved Forests.									
Bahraighát ...	Drift timber	...	...	96	...	96	96	...		...
	Total, Timber	...	...	96	...	96	96	...	...	...
	I.—Reserved Forests.									
Bahraich ...	Sál timber	...	...	119,485	63,623	188,108	63,623	119,291	194	...
	Asaina ,, ...	...	...	33,516	...	33,516	...	33,516	...	...
	Sissu ,, ...	...	...	2,088	...	2,088	...	2,088	...	...
	Miscellaneous	...	...	1,337,169	...	1,337,169	...	13,349	1,323,820	...
	Drift timber	...	...	171	...	171	171	...	...	...
	Total, Timber	...	...	1,492,429	63,623	1,556,052	63,794	1,68,244	1,324,014	...
	Firewood	...	...	446,805	...	446,805	...	1,71,265	276,540	...
	Total, Timber and Firewood	...	...	1,939,234	63,623	2,002,857	63,794	3,39,509	1,599,554	...
	I.—Reserved Forests.									
Gonda ...	Sál timber	...	...	8,600	1,141	9,741	1,141	8,600	...	...
	Asaina ,, ...	...	...	6,532	...	6,532	...	6 532	...	...
	Tikoe ,, ...	...	...	3,389	...	3,389	...	3,389	...	...
	Dhao ,, ...	...	...	46	...	46	...	46	...	...
	Sissu ,, ...	...	...	18	...	18	...	18	...	...
	Miscellaneous	...	...	236,054	...	236,054	...	1,01,293	134,761	...
	Drift timber	...	...	2,672	...	2,672	2,672	...	...	...
	Total, Timber	...	...	257 311	1,141	258,452	3,813	1,79,478	134,761	...
	Firewood	...	...	390,490	...	390,490	...	3,14,838	75,652	...
	Total, Timber and Firewood	...	...	647,801	1,141	648,942	3,813	434,716	210,413	...

* Charcoal is shewn by its equivalent in firewood.

ANNUAL FORM No. 54.

Forest Department, N.-W. P. and Oudh, Oudh Circle.

Outturn of Timber and Firewood during the year* 1886-87—(concluded).

Division.	Description of materials.	Outturn in cubic feet.								Remarks.
		Selection fellings.	Clearances.	Thinnings.	Total.	*Removed by*				
						Government Agency.	Purchasers.	Free grants	Right-holders.	
	I.—Reserved Forests.									
Gorakhpur ..	Sál timber	3,772	9,821	66,943	80,536	70,715	9,421	...	...	
	Miscellaneous	...	4,961	2,521	7,482	2,521	4,961	...	...	
	Drift timber	...	605	...	605	605	...	...	...	
	Total, Timber ..	3,772	15,387	69,464	88,623	73,841	14,782	...	...	
	Firewood	...	151,921	66,925	218,846	66,925	151,921	...	...	
	Total, Timber and Firewood ...	3,772	167,308	137,389	307,469	140,766	166,703	...	...	
	Grand Total of timber cubic feet ...	209,238	2,189,872	137,550	3,536 660	359,451	379,732	1,732,019	1,065,458	
	Grand Total of Firewood ...	...	2,093,630	167,288	2,260,918	167,288	978,786	(58,086	456,738	
	Grand Total of Timber and Firewood ...	2,09,238	5,283,502	304,838	5,797,578	526,739	1,358,528	2,390,115	1,522,196	
	II.—Protected Forests. Nil									
	III.—Unclassed State Forests and Waste lands. Nil									
	Abstract of the Circle.									
	Timber and firewood, 1886-87	209,238	5,283,502	304,838	5,797,578	526,739	1,358,528	2,390,115	1,522,196	
	,, ,, ,, 1885-86	741,196	4,676,099	747,885	6 163,980	1,591,237	1,672,718	2,880,025	20,000	
	Difference	—531,958	+607,403	—442,847	—366,402	—1,064,498	—314,190	—489,910	+1,502,196	

* Charcoal is shown by its equivalent in firewood.

Naini Tal :
The 15th July, 1887.

R. WHITTALL,
Offg Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 55.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Outturn of minor forest produce during the year 1886-87.

Division.	Description of produce.	Produce removed or utilized.									
		By Government agency.		*By purchasers.*		*By free grants*		*By right-holders.*		*Total*	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value	Quantity.	Value.
	I.—Reserved Forests.		Rs.		Rs.		Rs.		Rs.		Rs
Pilibhit.	Grazing dues ...	...	...	...	1,539	...	...	...	23,275	...	24,854
	Minor produce, Grasses ...	...	110	...	1,434	...	...	...	4,201	...	5,735
	Ditto, Honey and wax ...	...	...	...	100	...	...	...	...	...	100
	Ditto, Hides and horns ...	...	...	...	241	...	...	...	...	...	241
	Ditto, Miscellaneous ...	...	...	...	243	...	...	...	315	...	558
	Total ... { Grazing ...	...	...	...	1,539	...	...	...	23,275	...	24,854
	Total ... { Minor produce ...	...	110	...	2,018	...	...	...	4,516	...	6,634
	Grand Total ...	...	110	...	3,577	...	..	...	27,791	...	31 468
Behea.	Grazing dues ...	...	...	...	3,385	...	..	...	...	...	3,385
	Minor produce, Grasses ...	...	662	...	364	...	370	...	...	...	1,376
	Ditto, Honey and wax ...	...	...	...	239	...	...	...	...	...	239
	Ditto, Hides	...	30	...	365	...	...	...	...	...	395
	Ditto, Miscellaneous ...	..	102	...	211	...	41	...	...	...	356
	Total ... { Grazing ...	...	...	...	3,385	...	...	...	...	...	3,385
	Total ... { Minor produce ...	...	794	...	1,159	...	413	...	...	...	2,356
	Grand Total ...	...	794	...	4,544	...	413	...	...	...	5,741
Kheri.	Grazing dues ...	...	...	...	14,739	...	1,178	...	...	...	15,917
	Minor produce, Grasses ...	...	...	...	107	...	6,429	...	...	...	6,536
	Ditto, Honey and wax ...	...	...	...	300	...	...	...	...	...	300
	Ditto, Hides and horns ...	...	...	...	403	...	...	...	...	...	403
	Ditto, Khair (catechu) ...	...	...	...	12,437	...	...	...	...	...	12,437
	Ditto, Miscellaneous ...	...	...	...	345	...	85	...	...	...	430
	Total ... { Grazing ...	...	...	...	14,739	...	1,178	...	...	...	15,917
	Total ... { Minor produce ...	...	...	...	13,592	...	6,514	...	...	...	20,106
	Grand Total ...	...	...	..	28,331	...	7,692	...	...	...	36,023
Bahraich.	Grazing dues ...	...	...	...	14,833	...	...	...	...	...	14,833
	Minor produce, Grasses ...	...	...	...	954	...	3,192	...	...	...	4,146
	Ditto, Khair ...	...	...	...	4,510	...	...	...	...	...	4,510
	Ditto, Honey and wax ...	...	...	...	522	...	...	...	...	...	522
	Ditto, Bankat (Bulb) ...	...	...	...	282	...	...	...	...	...	282
	Ditto, Hides	...	...	...	1,815	...	...	...	...	...	1,815
	Ditto, Miscellaneous ...	...	...	...	2 126	...	201	...	...	...	2,327
	Total ... { Grazing ...	...	...	...	14,833	...	...	...	...	...	14,833
	Total ... { Minor produce ...	...	...	...	10,209	...	3,393	...	...	...	13,602
	Grand Total ...	...	...	...	25 042	...	3,393	...	...	...	28,435
Gonda.	Grazing dues	...	...	...	6,901	...	...	...	...	...	6,901
	Minor produce, Grasses	...	...	...	4,017	...	584	...	...	...	4,601
	Ditto, Hides	...	...	...	149	...	...	...	...	...	149
	Ditto, Khair (catechu) ...	...	...	...	2,407	...	...	...	...	...	2,407
	Ditto, Asna bark ...	...	...	...	40	...	...	...	...	...	40
	Ditto, Miscellaneous ...	...	..	...	1,017	...	...	...	...	...	1,017
	Total... { Grazing	...	...	...	6,901	...	...	...	...	...	6,901
	Total... { Minor produce... ...	...	...	...	7,630	...	584	...	...	...	8,214
	Grand Total ...	...	...	...	14 531	...	584	...	...	...	15,115
Gorakhpur.	Grazing dues ...	...	...	...	7,812	...	...	...	...	...	7 812
	Minor produce, Grasses ...	...	...	...	18,949	...	...	...	...	...	18,949
	Ditto, Honey... ...	...	...	...	23	...	...	...	...	...	23
	Ditto, Hides	...	...	...	787	...	...	...	...	...	787
	Ditto, Miscellaneous ...	...	...	...	386	...	...	...	...	...	386
	Total ... { Minor produce ...	...	...	...	20,145	...	...	...	...	...	20,145
	Total ... { Grazing ...	...	...	...	7 812	...	...	...	...	...	7,812
	Grand Total ...	...	...	...	27,957	...	...	...	...	...	27,957
	Grand Total ...	...	884	...	1,03,082	.	12,082	...	27,791	...	1,44,739
	ABSTRACT OF THE CIRCLE. *I.—Reserved Forests.*										
	Grazing dues	...	...	...	49,229	...	1,178	...	23,275	...	73,682
	Minor produce	...	884	...	54,753	...	10,904	...	4,516	...	71,057
	Total ...	..	884	...	103,982	...	12,082	...	27,791	...	1,44,739
	II.—Protected Forests. Nil										
	III.—Unclassed State Forests and waste lands. Nil.										
	Grand Total ...	...	884	...	1,03,982	..	12,082	...	27,791	...	1,44,739

N.B.—There are no "Protected" or "Unclassed State Forests and waste lands" in the Oudh Circle.

Naini Tal:
The 15th July, 1887.

R. Whittall.
Offg. Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 56.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Account of timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1886-87.

Particular.		No. of quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
BALANCE AT COMMENCEMENT OF THE YEAR.					
Sale Depôt.					
Bahramghát Division. — Bahramghát Depôt.	Sál logs	1,844	89,937		
	Asaina ,,	292	16,389		
	Sissu ,,	279	5,858		
	Sahera ,,	1	11		
	Dhao ,,	1	14		
	Pandar ,,	1	18		
	Tikus ,,	1	10		
	Sundri ,,	2	39		
	Dhamin ,,	2	35		
	Sál scantlings	212,189	80,542		
	,, sleepers	32,766	41,564		
	Asaina sleepers	17,889	22,808		
	Asaina scantlings	369	211		
	Sissu ,,	829	681		
	Sundri ,,	33	10		
	Deodar ,,	13	27		
	Dhamin ,,	27	8		
	Miscellaneous poles	424	492		
	Sál poles	85	833		
	Sissu stumps	83	281		
	Sál offcuts	33,776	22,533		
	Large boats	23	...		
	Canoes	2	...		
				300,880	281,251
	In transit canoes	7	...	7	
	Forest Depôts.				
Kheri Division.	Sál logs and pieces	7,849	177,062		
	Asaina ,, ,,	656	18,210		
	Sissu ,, ,,	3	64		
	Sál sleepers	191,914	297,231		
	,, scantlings	368	2,274		
	Asaina sleepers	184,812	279,394		
	Sál planks, &c.	365	512		
	,, signal posts	99	1,556		
	Sál slabs	274,623	421,938		
	Asaina slabs	70,559	231,556		
	Sál poles	27	232		
	Large boats	71			
	Canoes	750			
				732,066	1,430,341
Bahraich Division.	Sál sleepers	582	774		
		330	410		
	Sál offcuts and ends of logs,	2,366	12,115		
	Sál sleeper offcuts	13,040	13,040		
	Sál logs	148	3,960		
	Sal poles	5,140	51,021		
	Miscellaneous poles	9	150		
	Charcoal Mds.	14	50		
			Maunds.	21,615 / 14	81,550
Gorakhpur Division.	Sál ballas or poles	902	424		
	Sál pieces	4,658	28,612		
	Sál planks	1,518	400		
	Sál sleepers	53,108	79,662		
	Sál offcuts	9,279	18,558		
	Sál hollow logs	4	16		
				68,764	127,652
Pilibhit Division.	Ridge poles	10	52		
	Uprights	50	195		
	Rafters	602	1,250		
	Saplings	606	900		
				1,268	2,397

ANNUAL FORM No. 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Account of Timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1886-87—(continued).

Particular.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Forest Depôts—(concluded).				
Bhira Division ... Poles	425	6,014		
Pieces of wood ...	25	72		
Firewood Mds.	1,400	3,615		
		Maunds.	450 / 1,400	9,702
TOTAL, BALANCE ... Number	...	...	1,125,089	1,932,693
Maunds	...	...	1,414	
RECEIPTS.				
(1)—*From the Forests in Sale Depôts.*				
Sál logs	3,054	150,142		
Asaina logs	452	24,527		
Sál scantlings	233	1,067		
„ sleepers	40,224	60,336		
Asaina sleepers	3,903	9,291		
Miscellaneous poles	1,822	2,277		
Large boats	7	...		
			49,695	247,640
(2)—*From the Forests in Depôts other than sale Depôts.*				
Kheri, selection fellings sál logs and pieces ...	3,689	183,638		
Bahraich .. Fellings sál logs 314 = 8,531	1,257	12,303		
Gorakhpur, and pieces. 943 = 3,772				
1,257 = 12,303				
Kheri fellings Asaina logs	505	14,470		
„ „ Haldu logs	95	6,958		
Pilibhit sál pieces carts ... 2 = 90	54	168		
Bhira .. .. 32 = 78				
Kheri miscellaneous poles ... 1,622 = 7,288	3,496	9,799		
Gorakhpur „ „ ... 1,674 = 2,511				
„ sál dharans	8	53		
„ „ sleeper	1	2		
„ asaina poles	4	10		
„ sál offcuts	66,363	66,363		
Pilibhit firewood ... 15,350 = 76,750				
... 4,056 = 12,168				
... 2,470 = 9,690				
Bhira 1,755	40,386	167,288		
Gorakhpur ... ... 18,550 = 66,925	Maunds.			
40,386 = 167,288				
Pilibhit sál bark ... ... Mds	10	30		
Bhira minor produce ... ... Mds.	4,891	...		
hides ... ... No	56	...		
Gorakhpur grass ... ... Mds.	37	...		
„ mustard seed ... ... „	13	...		
Pilibhit Sál poles ... 1 = 5	...	...		
Bhira „ ... 843 = 1,485	...	...		
Bahraich „ ... 6,047 = 55,092	...	...		
Gorakhpur „ ... 476 = 476	...	...		
„ „ ... 25 = 49	...	...		
7,392 = 57,057	7,392	57,057		
Pilibhit uprights, &c.	1,619	1,714 Maunds	84,519 45,337	5,20,253
(3)a.—*From the Forests and sold locally.*				
Bahraich drift sál log ... 5 = 171	6	230		
Bahramghát drift sál log ... 1 = 59				
„ asaina poles	1	19		
„ mango wood	5	23		
Pilibhit drift	...	1,831		
Gonda „	...	2,672		

ANNUAL FORM No. 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Account of Timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1886-87—(continued).

Particular.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity	Total of each head. Cubic feet.
(2)a.—*From the Forests and sold locally*—(concld).				
Gorakhpur sál dharans	1	3		
,, ,, pieces	1	4		
,, ,, planks	6	6		
,, ,, botas	13	26		
,, ,, agailas	24	45		
,, ,, ballas	161	408		
,, ,, offcuts ... Mds.	2	9		
,, ,, saimal trees	2	36		
,, ,, mango botas	1	5		
,, ,, gúlar	3	9		
,, ,, chaupata (hollow)	1	1		
,, ,, koros ...	11	14		
,, ,, firewood ... Mds.	11	39	236	5,975
			11	maunds.
(3)—*By Conversion in Depôts.*				
Bahramghát sál sleepers 3,620=5,430 ...	9,127	13,690		
Gorakhpur ,, ,, 5,507=8,260 ...				
Bahramghát sál scantlings	91,631	80,670		
,, asaina ,, ...	4,219	2,278		
,, sissu ,, ...	907	157		
,, miscellaneous poles	370	463		
,, Gorakhpur { sál offcuts ... Mds.	20,900			
... ...	55,905 & 5,341	16,383		
,, prices of logs	1,149	7,951		
,, asaina ,, ,, ...	17	236		
,, sissu ,, ,, ...	82	768		
,, dhamin ,, ,, ...	1	7		
,, sundri	1	8		
,, mango offcuts ... Mds.	103	...		
,, sal stumps	186			
Mds.	251	429		
,, asaina offcuts	229			
Mds.	268	68		
,, sál half logs	23	...		
,, asaina	2	62		
Gorakhpur sál door-frames	25	27		
		18	143,874	125,214
(4)—*By transfer.*			26,863	maunds.
Bahramghát to Lucknow sál scantlings ...	6,498	3,309		
,, ,, sissu ,, ...	68	32		
,, ,, sál sleepers ...	5,518	8,277		
,, ,, asaina	587	836		
,, ,, sál stumps ...	186	429		
Mds.	231			
,, ,, miscellaneous poles ...	560	690		
,, ,, sál offcuts ...	250			
Mds.	5,900 & 5,038	3,970		
,, ,, asaina ,, ...	97			
,, ,, firewood (Bahraich) ...	12,146			
Mds.	...	...	19,597	17,436
,, to Lakarmandi sal sleepers ...	2,141	3,120	17,508	
,, ,, asaina ,, ...	256	364	2,397	3,504
Gorakhpur difference in measurement ... 24				
Bahramghat 54	...	...		
Kheri sal sleepers	77,477			
Kheri sál to asaina intertransfer ...	35	103,249		
		1,658	77,473	105,180
Total, Receipts ...	Number / Maunds	...	377,790 / 89,721	1,134,602
GRAND TOTAL ...	Number / Maunds	...	1,502,870 / 91,135	2,957,495

DISPOSALS.

(1)—*To purchasers from Sale Depôts.*

Sál logs	173	6,985	
Asaina ,, ...	451	23,873	
Sissu ,, ...	257	4,847	
Kahera ,, ...	1	11	
Dhao ,, ...	1	14	
Pandar ,, ...	1	18	
Tikul ,, ...	1	10	

ANNUAL FORM No. 56.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Account of Timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1886-87—(continued).

Particular.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Disposals.				
(1)—*To purchasers from Sale Depôts.*				
Sundri logs	2	39		
Dhamin „	2	35		
Sál scantlings	227,555	106,112		
„ sleepers	51,102	76,483		
Asaina scantlings	3,354	1,865		
„ sleepers	21,536	31,715		
Sissu scantlings	927	609		
Sundri „	3	1		
Deodár „	5	7		
Sál poles	85	833		
Miscellaneous poles	1,211	1,486		
Large boats	9	...		
Canoes	2	...		
Sál offcuts	5,622 16,480 11,626	3,728 13,883		
Asaina offcuts	229 Mds. 195	68		
Sál pieces of logs	1,149	7,951		
Asaina „ „	17	235		
Sissu „ „	82	768		
Dhamin „ „	1	7		
Sundri „ „	1	8		
Mango offcuts	Mds. 103	...		
Sál half logs	23	67		
Asaina „	2	27	341,866	286,185 maunds.
Lucknow Depôt Sál scantlings	4,386	1,649	298	
Sissu „	43	19		
Sál sleepers	952	1,439		
„ offcuts	4,717 Mds. 3,399	3,970		
Miscellaneous poles	560	690		
Sál stumps	186 Mds. 211	429 ...		
Firewood	Mds. 200	...	10,851 5,830	8,196 maunds.
To purchasers from Forest Depôts.				
Sál logs and pieces, Khori ... 1=52; Bahraich ... 4=172; Gorakhpur ... 341=1,364	345	1,588		
Sál sleepers ... Khori ... 2,564=11,959; Gorakhpur ...57,248=86,002	59,912	97,961		
Asaina sleepers Khori	78,009	117,018		
Sal signal posts	30	551		
Sál slabs	2,720	9,542		
Sál offcuts ... Bahraich ... 132=837; „ 4,958=4,958; Gorakhpur ...4,709; Maunds ...6,533 =34,651	2,799 & 6,533 Maunds	40,496		
Asaina ballas Gorakhpur	4	10		
Sál planks „	135	135		
Sál poles ... Bahraich ... 2,344=13,394; Bhira ... 251=441; Gorakhpur ... 106=259	2,701	14,094		
Hollow logs Chaupata Gorakhpur	2	8		
Sál uprights Pilibhít	1,616	2,655		
Miscellaneous poles Gorakhpur	1,237	1,571		
Sál pieces of wood, Pilibhít ... 2=90; Bhira ... 14=34	16	124		
Sál koras Gorakhpur	476	476		
Sál dharans Gorakhpur	8	53		
Sál door frames	25	13		
Sál boat Khori	1	...		
Firewood ... Pilibhít ...10,400=52,000; Maunds ... 4,056=12,168; Bhira ... 2,480=8,610; Gorakhpur ...18,550=66,925	35,486 Maunds	139,703		

ANNUAL FORM No. 56.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Account of Timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1886-87—(continued).

Particular.	No or quantity.	Cubic feet.	Total of each head: No or quantity.	Total of each head: Cubic feet
To purchasers from Forest Depôt—(concld.)				
Sál bark Pilibhít ... ... Mds	10	30		
Minor produce Bhira ... ... ,,	1,058	...		
Hides produce ... ... No.	54	...		
Grass Gorakhpur 55 bundles	37	}	164,091	436,143
	Maunds	}		
Mustard seed 55 maunds	13	...	43,137	maunds.
(3)—*Locally.*				
Bahraich drift sál log ... ... 5=171				
Bahramghát .. .. 1=59				
,, ,, Asaina poles	1	12		
,, ,, mango wood	5	25		
Gorakhpur sál dharans	1	3		
,, sál pieces	1	4		
Pilibhít drift	...	1,831		
Bahraich	...	171		
Gonda	.	2,672		
Gorakhpur, Drift sál planks	6	6		
,, ,, boats	13	26		
,, ,, agallas	24	45		
,, ,, ballas	161	408		
,, ,, offcuts ... Mds	2	9		
,, saimal trees	2	36		
,, mango botas	1	5		
,, gúlar	3	9		
,, chaupata hollow	1	1		
,, koros	11	14		
,, firewood	11	39	236	5,275
			13	maunds.
(4)—*By conversion in Depôts.*				
Sal logs Bahramghát . . 2,487=171,790				
Kheri ... 1 762=223,785	7,084	2,02,915		
Gorakhpur ... 1,835= 7,340				
7,084=202,915				
Asaina logs Bahramghat ... 63= 3,689	145	8,905		
Kheri ... 82= 5,216				
145= 8,905				
Sál scantlings, Bahramghát	3,815	5,976		
,, sleepers ,, ...	58	102		
Asaina scantlings ,, ...	71	89		
Siasu logs ,, ...	3	88		
Sál offcuts ,, ...	70,933	}	1,463	
	2,194	}		
	169			
,, to asaina inter-transfer	35	1,353		
,, planks Gorakhpur	25	25	84,542	221,416
(5)—*By lost or written off*				
Sál scantlings, Kheri	357	504		
,, offcuts, Lucknow	35	...		
Mds	131	...		
,, poles, Pilibhít	10	52		
Uprights ,, ...	21	62		
Large boats, Kheri	6	...		
Minor produce, Bhira ... ... Mds.	3	...		
Sál ballas, Gorakhpur	53	105		
,, sleepers difference in measurement, Kheri ...	...	16,122		
,, scantlings difference in measurement, Kheri ..	...	544		
Asaina sleepers, Kheri	...	143		
Sal scantlings, Lucknow	...	113	482	
			134	17,666
				maunds.
(6)—*By used Departmentally.*				
Sál logs ... Kheri ... 9 =448 ...				
Bahraich ... 2 - 53 ...	11	496		
11 496				

ANNUAL FORM No. 56.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Account of Timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1886-87—(continued).

Particular.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
(6)—*By used departmentally*—(concld.)				
Sál scantlings, Bahramghát 23,269=9,566 ... Lucknow ... 243= 122 ...	28,512	9,688		
28,512 9,688				
Sissu scantlings, Bahramghát	285	62		
Sál offcuts	20,060	13,372		
„ planks, Kheri	8	8		
„ poles, Bahraich	2	24		
Minor forest produce, Bhira	15	...	48,878	23,650
Mds.	...	...	15	maunds.
(7)—*By transfer.*				
Sál logs	3 054	150,093		
Asaina logs	452	24,527		
Sál sleepers	210,888	294,674		
„ scantlings	232	1,082		
Asaina sleepers	9,415	14,573		
Miscellaneous	1,622	7,288		
Large boats	5	...		
„ canoes	2	...	225,820	492,237
Sál scantlings, Bahramghát	6,490	3,057		
Sissu „	68	32		
Miscellaneous poles	560	690		
Sál stumps	186	429		
Mds.	231	...		
„ offcuts	5,960 & 250	3,970	13,514	8,178
Mds.	5,038		5,269	maunds.
Asaina offcuts... ... ... Mds.	93	...		
Sál sleepers to Lakarmandi	2,141	3,120		
Asaina „ „	256	384		
Large boats	21	...		
Small „	2	...	2,420	3,504
Mds.	...	...	93	maunds.
Total, Disposals ... Number ...	...	892,700	1,492,550	
Maunds ...	...	52,789	...	

BALANCE AT CLOSE OF THE YEAR.

Sale Depôt.

Bahramghát Division. Bahramghát depôt.	Sál logs	1,238	61 304	
	Asaina „	230	12,304	
	Sissu „	39	923	
	Sál scantlings	37,924	37,568	
	„ sleepers	23 299	27,625	
	Asaina scantlings	1,163	535	
	„ sleepers	...	...	
	Sissu scantlings	459	135	
	Sundri „	30	9	
	Deodár „	8	20	
	Dhamin „	27	8	
	Miscellaneous poles ...	845	1,056	
	Sissu stumps	33	281	
	Sál offcuts	7,840	...	72,635	1,41,768
	„ „ Mds.	303		303	maunds.
Lucknow depôt.	Sál scantlings	1,869	1,318		
	Sissu „	25	13		
	Sál sleepers	4,559	6,638		
	Asaina „	557	836		
	Sál offcuts	1,458			
	Mds.	1,508			
	Asaina „ ... Mds.	93			
	Firewood ... Mds.	11,946	...	8,468	9,005
				13,547	maunds.
Lakarmandi depôt.	Sál sleepers	2,141	3,120		
	Asaina „	256	384	2,897	3,504

ANNUAL FORM No. 56

Forest Department, North-Western Provinces and Oudh, Oudh Circle

Account of Timber and other produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1886-87—(concluded.)

	Particular	No. or quantity.	Cubic feet	Total of each head. No or quantity	Total of each head. Cubic feet.
	Forest Depots.				
Kheri Division.	Sal logs and pieces ...	6,677	184,474		
	Asaina ,, ,, ,, ...	662	5,190		
	Sissu ,, ,, ,, ...	3	64		
	Haldu ,, ,, ,, ...	95	6 958		
	Sal sleepers	55,849	77,725		
	,, scantlings	116	648		
	Asaina sleepers	97,388	147,665		
	Sál signal posts	69	1,287		
	Sal slabs	264 909	412,788		
	Asaina slabs ...	70,559	231,858		
	Sál poles	27	232		
	Large boats	60			
	Canoes	747	...	497,175	1,068,169
Bahraich Division.	Sál sleepers	330	440		
	,, ,, ...	582	776		
	,, offcuts	2,334	11,228		
	,, sleeper offcuts ...	8,082	8,082		
	,, logs	456	12,266		
	,, poles	8,841	92,695		
	Miscellaneous poles ...	9	180		
	Charcoal ... Mds.	14	50	20,534	1,25,685
				14	maunds.
Gorakhpur Division	Sál ballas	68	68		
	,, pieces	3,420	23,680		
	,, planks	1,958	240		
	,, sleepers ...	1,868	1,921		
	Hollow log chaupata kores ..	2	8		
	Sál offcuts Mds.	437	940		
		14,367	50,285	6,853	77,162
				14,367	maunds.
Bhira Division.	Poles	1,017	7,009		
	Pieces of wood ...	43	117		
	Firewood ... Mds.	1,350	6,450		
	Minor produce Mahua ...	82	,,		
	,, ,, Bail grass ...	3,751	,,		
	,, ,, Honey and wax ..	2	...		
	,, ,, Hides No	2	...	1,062	13,575
				5,165	maunds.
Pilibhit Division	Poles	1	5		
	Uprights ... ,,	14	27		
	Rafters ..	195	357		
	Saplings	1,031	938		
	Firewood ... Mds	4,950	24,750	1,241	
				4,950	26,077
				Maunds.	
	Total, Balance ..	Number Maunds.		610,170	1,464,945
				38,846	
	Grand Total	Number. Maunds	...	1,502 870	2,957,495
				91,135	

Naini Tal :
The 16th July, 1887.

R WHITTALL,
Conservator of Forests, N W P and Oudh, Oudh Circle.

FORM No. 57.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Abstract showing the value of Timber and other produce at Sale Depôts, for 1886-87.

Description of timber and other produce.	*On hand at commencement of the year.*			*On hand at close of the year.*			*Difference in value.*	
	Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favor of the year.	Against the year.
Timber.				*I.—Reserved Forests.*				
			Rs.			Rs.		
Logs and pieces ...	2,428	111,269	70,113	1,507	74,531	52,592		
Sleepers and scantlings ...	264,114	145,861	109,135	72,217	78,409	65,172		
Poles and saplings ...	513	1,325	478	345	1,056	211		
Slabs, and pieces, stumps, &c	35,836	34,084	4,260	8,831	281	4,630		
				Mds. 1,904				
Canoes and boats ...	25	...	5,790	5	...	500		
Firewood ... Mds	...	...	...	Mds 11,946	...	3,982		
Total ...	300,911	292,522	1,97,976	83,505 and Mds.13,250	154,277	1,27,087	...	70,889

FORM No. 57A.

Abstract showing the value of Timber and other produce in Forest Depôts other than sale Depôts for the year 1886-87.

Timber.				*I.—Reserved Forests.*				
			Rs.			Rs.		
Logs	8,656	272,867	1,02,324	11,315	232,640	1,50,930	...	...
Sleepers and scantlings ...	430,784	668,379	2,34,189	1,57,030	230,700	2,11,171	...	...
Poles and saplings ...	7,069	54 712	884	11,663	102,557	35,098	...	...
Slabs, offcuts, and pieces, &c.	380,904	413,791	25,862	345,778 and Mds.14,367	714,521	15,504	...	...
Boats and canoes ...	821	...	29,200	807	...	39,524	...	...
Total ...	837,234	1,409,749	4,92,459	5,26,663 Mds 14,367	1,280,418	4,52,212	...	40,247
Firewood ... Mds.	1,400	3,615	56	6,310	31,200	725	...	...
Charcoal ... ,,	14	22	7	14	50	7	...	...
Total ...	1,414	3,637	63	6,314	31,250	732	669	...
Minor produce ...	...	...	...	Mds. 3,815 No. 2	...	1,555	1,555	...
GRAND TOTAL ...	838,648	1,413,386	4,92,522	5,26 665 and Mds. 24,496	1,310,668	4,54,492	...	38,023
				Abstract of Forms Nos 57 and 57A.				
Timber	1,138,145	1,702,271	6,90,435	610,168	1,434,695	5,75,317	...	...
Firewood and charcoal, Mds.	1,414	3,637	63	Mds. 18,260	31,250	732	...	...
Minor produce ...	...	...	...	,, 3,815 No. 2	...	1,555	...	...
Total ...	1,138,145 Mds.1,414	1,705,908	6,90,498	610,170 Mds. 22,075	1,465,945	5,77,604	...	108,912

NAINI TAL:
The 16th July, 1887.

R. WHITTALL
Offg. Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

FORM No. 57B.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Abstract showing the value of live and dead stock for the year 1886-87.

Description of live and dead stock.	*On hand at the commencement of the year.*		*On hand at the close of the year.*		*Difference in value.*		Remarks.
	Number.	Value.	Number.	Value.	In favor of the year.	Against the year.	
DIRECTION DIVISION.		Rs.		Rs.	Rs.	Rs.	
Dead Stock.							
3 Tools	1	1	2	2	...	...	
4 Office furniture	62	171	63	306	...	...	
5 Tents and equipages	5	260	5	260	...	...	
7 Miscellaneous	4	4	4	4	...	...	
Total ...	72	436	74	572	136	...	
PILIBHIT DIVISION.							
Live Stock.							
Elephant	1	1,800	1	1,800	...	...	
Bullocks	4	160	4	164	...	...	
Dead Stock.							
1 Surveying and other instruments ...	31	19	34	10	...	...	
2 Machinery	2	31	2	31	...	...	
3 Tools	385	329	389	329	...	...	
4 Office furniture	11	62	17	102	...	...	
5 Tents and equipages	3	70	5	70	...	...	
7 Miscellaneous	523	872	489	916	...	...	
Country carts	2	80	2	80	...	...	
Buildings	8	7,875	8	7,875	...	...	
Total ...	973	11,298	951	11,367	69	...	
BHERA DIVISION.							
Live Stock.							
Bullocks	2	80	2	90	...	...	
Dead Stock.							
1 Surveying and other instruments ...	41	114	74	116	...	...	
2 Machinery	...	...	19	75	...	...	
3 Tools	136	92	128	87	...	...	
4 Office furniture	61	95	61	120	...	...	
5 Tents and equipages	4	190	4	190	...	...	
6 Building materials, small stores and house fittings.	218	494	215	494	...	...	
7 Miscellaneous	62	125	64	125	...	...	
Country carts	2	80	2	80	...	...	
Buildings	8	11,044	8	11,044	...	...	
Total ...	534	12,314	577	12,421	107	...	
KHERI DIVISION.							
Live Stock.							
Elephants	4	6,500	3	6,000	...	...	
Bullocks	4	110	3	82	...	...	
Buffaloes	2	16	2	16	...	...	
Dead Stock.							
1 Surveying and other instruments ...	27	866	29	882	...	...	
3 Tools	2,761	2,031	2,895	2,050	...	...	
4 Office furniture	326	981	320	981	...	...	
5 Tents and equipages	11	1,578	16	1,548	...	...	
6 Building materials, small stores and house fittings	4,996	1,575	4,271	1,525	...	...	
7 Miscellaneous	1,197	1,123	1,266	1,145	...	...	
Country carts	11	193	10	193	...	...	
Buildings	11	35,470	10	31,470	...	...	
Total ...	9,350	52,143	8,825	45,892	...	6,251	
BAHRAMGHAT DIVISION.							
Live Stock.							
Buffaloes	9	90	9	90	...	...	
Dead Stock.							
1 Surveying and other instruments ...	49	121	49	121	...	...	
2 Machinery	51	39,395	51	39,895	...	...	
3 Tools	711	1,514	739	1,817	...	...	
4 Office furniture	68	454	71	469	...	...	
6 Building materials, small stores and house fittings.	11	62	78	67	...	...	
7 Miscellaneous	...	225	...	1,910	...	...	
Timber transport carts	2	250	2	250	...	...	
Country carts	10	125	10	125	...	...	
Buildings	2	10,000	2	10,000	...	...	
Total ...	913	52,236	1,006	54,244	2,008	...	

FORM No. 57B.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Abstract showing the value of live and dead stock for the year 1886-87.

Description.	On hand at the commencement of the year.		On hand at the close of the year.		Difference in value.		Remarks.
	Number.	Value.	Number.	Value	In favor of the year.	Against the year.	
BAHRAICH DIVISION.							
Live Stock.		Rs.		Rs.	Rs.	Rs.	
Elephant	1	2,500	2	4,700	...	...	
Dead Stock.							
1 Surveying and other instruments ...	61	209	61	159	...	...	
3 Tools	1,791	1,049	1,817	1,065	...	...	
4 Office furniture	267	1,074	284	1,221	...	...	
5 Tents	5	480	5	320	...	...	
6 Building materials, small stores and house fittings.	111	66	111	66	...	...	
7 Miscellaneous	353	522	388	522	...	...	
Buildings	32	43,433	31	43,433	...	...	
Total ...	2,621	49,433	2,670	51,486	2,053	...	
GONDA DIVISION.							
Live Stock.							
Elephant	1	500	...	...	...	...	
Buffaloes	1	11	...	...	...	...	
Dead Stock.							
1 Surveying and other instruments ...	6	109	6	109	...	...	
3 Tools	306	240	335	242	...	...	
4 Office furniture	43	250	58	293	...	...	
5 Tents and equipages	5	487	5	487	...	...	
6 Building materials, small stores and house fittings.	10	4	38	10	...	...	
7 Miscellaneous	5	7	5	7	...	...	
Buildings	2	4,000	2	4,000	...	...	
Total ...	379	5,608	444	5,150	...	458	
GORAKHPUR DIVISION.							
Live Stock.							
Elephant	1	1,100	1	1,100	...	...	
Dead Stock.							
1 Surveying instruments	11	93	71	200	...	...	
2 Machinery	1	150	1	150	...	...	
3 Tools	413	137	268	346	...	...	
4 Office furniture	30,947	1,020	30,536	1,107	...	...	
5 Tents and equipages	5	200	5	200	...	...	
7 Miscellaneous	139	209	129	209	...	...	
Buildings	9	9,000	10	10,500	...	...	
Total ...	31,516	11,979	31,013	13,812	1,833	...	
GRAND TOTAL ...	66,358	1,95,447	45,555	1,94,944	...	503	
ABSTRACT OF THE CIRCLE.							
Live Stock.							
Elephants	3	14,500	7	13,600	...	...	
Bullocks	10	350	9	326	...	...	
Buffaloes	12	117	11	106	...	...	
Total ...	30	14,967	27	14,032	...	...	
Dead Stock.							
1 Surveying and other instruments ...	226	1,531	324	1,597	...	...	
2 Machinery	54	39,576	73	39,651	...	...	
3 Tools	6,507	5,893	6,563	5,938	...	...	
4 Office furniture	51,765	4,177	31 412	4,091	...	...	
5 Tents and equipages	38	2,965	43	3,075	...	...	
6 Building materials, small stores and house fittings.	5,346	2,201	4,703	2,162	...	...	
7 Miscellaneous	2,273	6,087	2,310	4,626	...	...	
Country carts	27	728	26	728	...	...	
Buildings	72	1,20,622	72	1,18,322	...	...	
Total ...	66,308	1,80,480	45,528	1,80,912	432	...	
GRAND TOTAL ...	66,358	1,95,447	45,555	1,94,944	...	503	

NAINI TAL :
The 16th July, 1887.

R. WHITTALL,
Offg. Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 58.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Summary of Revenue of the different divisions, 1886-87.

Budget heads Receipts.	Direction.	Kheri Division.	Bhira Division.	Bahramghát Division.	Bahraich Division.	Gonda Division.	Gorakhpur Division.	Pilibhít Division.	Total.
I.—Timber and other produce removed from the forests by Government Agency:—	Rs. a. p.	Rs. a. p.	Rs. a. p	Rs. a. p.	Rs a. p.	Rs a. p.	Rs a. p.	Rs. a. p.	Rs. a. p.
(a) Timber	...	1,93,580 2 4	42 7 0	2,14,451 1 3	4,182 12 11	440 10 9	64,524 9 9	211 5 6	4,77,433 1 6
(b.) Firewood and charcoal	...	...	47 9 0	21 7 7	...	...	1,958 5 8	1,338 7 6	3,365 13 9
(c) Bamboos	...	...	...	...	...	...	...	...	...
(d.) Sandal wood	...	...	...	...	...	...	...	...	...
(e) Grass and other minor produce	...	...	784 9 3	...	...	...	73 7 6	2 0 0	860 0 9
II.—Timber and other produce removed from the forests by consumers or purchasers:—									
(a.) Timber	...	4,898 3 2	613 9 6	...	27,721 2 9	8,731 6 2	6,462 13 11	2 000 1 0	50 427 4 6
(b) Firewood and charcoal	...	395 9 6	396 8 0	...	1,333 6 6	1,899 2 8	3,897 11 1	2,501 14 3	10,424 4 0
(c.) Bamboos	...	...	...	...	...	...	...	...	...
(d.) Grazing and fodder grass... ...	...	15 783 4 11	2,983 10 3	...	14,832 12 1	6.901 1 11	7,811 11 11	1,558 11 0	50,271 4 1
(e.) Other minor produce	...	10,626 3 0	1,160 3 3	...	10,208 15 0	6,833 7 9	20,144 13 11	2,115 13 3	51,091 6 1
III.—Confiscated drift and waif wood...	...	154 4 0	53 0 0	2,891 2 9	3 0 0	671 5 3	404 2 0	916 14 0	4,793 12 0
IV.—Revenue from forests not managed by Government:—									
(a.) Duty on foreign timber and other forests produce.	...	...	...	...	...	...	...	...	...
(b.) Revenue from shared and private forests ...	...	...	...	...	...	...	...	...	...
V.—Miscellaneous:—									
(a) Fines and forfeitures	...	7 0 0	12 :0 7	...	236 15 8	...	248 7 0	25 2 5	530 3 8
(b) Refunds	...	30 0 0	...	...	...	34 0 9	...	...	64 0 0
(c) Other sources	1 4 0	3,291 14 1	816 11 9	942 0 8	637 10 10	460 2 3	2,796 2 1	767 6 0	9,393 3 5
Total, Receipts ..	1 4 0	2,26,728 9 9	7,010 14 7	2,18,008 12 0	59,156 11 9	25,971 5 6	1,08,322 4 10	11,477 10 10	6,58,674 8 6

Calcutta:
The 14th June, 1887.

JAS. TAYLOR,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 58.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Summary of Expenditure of the different divisions, 1886-87.

Budget heads.	Direction.	Kheri Division.	Ehira Sub-Division.	Bahramghát Division.	Bahraich Division.	Gonda Division.	Gorakhpur Division.	Pilibhít Division.	Total.
A.—CONSERVANCY AND WORKS.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other produce removed from the forest by Government agency :—									
(a.) Timber	8 9 1	1,20,440 4 11	12 5 0	24,925 1 9	7,986 11 4	4 6 0	25,4:0 12 0	510 8 5	1,79,260 10 6
(b.) Firewood and charcoal	...	1,876 14 9	197 13 10	...	5,937 12 11	16 10 8	733 11 2	1,141 11 4	9,834 10 8
(c.) Bamboos	...	...	...	...	...	...	...	...	...
(d.) Sandal wood	...	...	...	...	...	...	...	...	...
(e.) Grass and other minor produce	...	...	608 11 5	...	...	103 10 7	...	25 6 11	739 12 11
II.—Timber and other produce removed from the forests by consumers or purchasers	93 4 9	1,677 11 0	2,517 13 11	...	1,785 9 3	1,539 1 3	1,510 1 6	3,606 6 1	12,729 15 9
III.—Confiscated, drift and waif wood	...	72 0 0	...	1,855 15 8	...	58 7 3	281 7 3	...	1,967 14 2
IV.—Revenue from forests not managed by Government :—									
(a.) Duty on foreign timber and other forest produce,	...	...	...	...	...	...	...	...	...
(b.) Revenue from shared and private forests ..	...	...	...	...	...	...	...	...	...
V.—Rent of leased forests, and payments to share-holders in forests managed by Government	...	...	...	...	...	...	...	...	...
VI.—Live Stock, Stores, Tools and Plant :—									
(a.) Purchase of cattle	...	...	90 0 0	22 0 0	2,100 0 0	...	...	34 0 0	2,246 0 0
(b.) Feed and keep of cattle	...	1,905 6 1	71 11 10	537 2 9	1,003 12 0	328 8 8	527 5 7	805 8 8	5,239 7 5
(c.) Stores, tools and plant	...	476 7 10	105 13 6	325 6 6	97 0 0	45 0 0	151 2 6	84 2 9	1,285 1 1
VII.—Communications and Buildings :—									
(a.) Roads and bridges	...	8,165 12 5	616 0 6	199 8 3	1,809 14 10	241 14 6	1,418 8 9	576 1 8	13,027 12 11
(b.) Buildings	...	6,150 9 8	556 3 1	310 15 8	2,004 7 2	1,197 11 7	1,133 0 10	749 1 11	12,102 1 6
(c.) Other works	...	1,968 8 4	331 0 11	...	449 0 0	21 2 7	409 12 2	33 4 0	3,212 12 0
VIII.—Demarcation, improvement and extension of forests :—									
(a.) Demarcation	...	5 14 0	900 0 0	...	...	96 3 6	334 5 0	2 366 15 8	3,673 5 8
(b.) Compensation for land and rights	...	...	...	...	11 12 0	...	535 7 1	2 7 6	549 10 7
(c.) Surveys and working plans	...	1,830 15 3	...	...	...	...	101 3 1	...	1,932 2 4
(d.) Plantations	...	269 0 0	54 13 3	...	...	...	3,871 13 9	...	3,925 11 0
(e.) Protection from fire	...	2,595 12 4	1,739 0 6	...	3,769 15 5	269 1 0	2,760 10 3	2,421 1 7	13,650 9 1
(f) Other works	...	317 13 3	96 7 9	...	1,548 11 7	226 0 0	2,351 2 9	18 6 6	4,457 9 10
IX.—Miscellaneous :—									
(a.) Refunds	...	...	...	...	147 8 0	...	...	...	147 8 0
(b.) Law charges	...	9 8 0	...	30 11 3	...	3 6 0	190 10 9	...	225 4 0
(c.) Other charges	...	297 9 3	210 11 6	0 8 0	109 6 0	9 9 0	79 9 3	372 8 5	1,079 13 5
TOTAL, A.—CONSERVANCY AND WORKS ...	101 13 10	1,46,154 3 1	8,038 11 0	27,907 5 5	28,713 8 6	4,221 11 11	41,480 11 8	12,749 11 5	2,71,367 12 10

CALCUTTA:
The 14th June, 1887.

J. TAYLOR,
Assistant Comptroller-General, (Forests).

ANNUAL FORM No. 58.—[PRESCRIBED.]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Summary of Expenditure of the different divisions, 1886-87.

Budget heads.	Direction.	Kheri Division.	Bhira Sub-division.	Bahramghát Division.	Bahraich Division.	Gonda Division.	Gorakhpur Division.	Pilibhít Division.	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Brought forward, Total A., Conservancy and Works ...	101 13 10	1,48,154 2 1	8,038 11 0	27,907 5 5	28,713 8 6	4,221 11 11	41,480 11 8	12,749 11 5	2,71,367 12 16
B.—ESTABLISHMENTS.									
I.—Salaries :—									
(a.) Conservators	14,054 4 9	...	...	...	...	...	...	...	14,054 4 9
(b.) Superior officers	...	16,760 4 5	...	3,600 0 9	8,379 10 10	5,183 8 9	5,692 15 2	14,705 9 9	48,779 11 0
(c.) Subordinate forest and depôt establishments ...	...	4,416 1 4	1,688 9 8	918 14 9	2,270 9 8	1,487 0 9	4,510 3 11	816 11 8	15,295 3 9
(d.) Office establishments	2,388 8 8	1,778 2 8	42 2 2	529 2 8	976 9 0	886 6 2	107 10 3	704 5 1	7,112 14 6
(e.) Deputation and special allowances	...	50 0 0	...	...	...	...	...	...	50 0 0
II.—Travelling Allowances :—									
(a.) Conservators	1,872 12 0	...	...	...	...	...	...	...	1,872 12 0
(b.) Superior officers	...	2,485 11 2	...	213 15 0	1,084 9 0	622 9 0	1,487 1 6	1,150 8 0	7,063 15 8
(c.) Subordinate forest and depôt establishments ...	...	1,225 9 4	278 9 2	10 0 0	327 5 4	197 8 0	344 2 8	48 1 2	2,431 3 8
(d.) Office establishments	734 3 3	578 3 4	20 12 6	45 6 0	320 11 6	135 8 0	...	244 9 10	2,099 6 4
III.—Contingencies :—									
(a.) Stationery	13 2 9	1 0 0	10 1 0	5 7 9	6 14 0	11 11 3	1 15 0	7 8 9	57 12 6
(b.) Carriage of tents and records	440 1 5	117 10 0	68 13 6	...	176 9 0	64 8 0	42 8 0	65 15 6	974 1 6
(c.) Rents, rates and taxes	216 0 0	...	101 4 0	...	0 8 6	92 2 5	100 0 0	100 0 0	609 14 11
(d.) Pay of police guards	...	193 1 11	...	155 0 0	111 8 5	177 0 0	35 0 0	123 3 8	794 9 0
(e.) Official postage	211 3 0	129 15 6	41 0 0	85 4 6	59 0 6	58 14 0	33 14 6	42 10 0	662 0 0
(f.) Sundries	506 1 6	388 10 2	46 3 0	98 0 4	365 9 9	181 11 10	273 13 4	94 1 5	1,954 3 4
Total, B.—Establishments ...	20,436 3 2	28,732 5 10	2,097 9 6	4,968 2 3	9,079 4 6	8,798 8 2	12,729 4 5	17,510 8 10	1,03,752 0 2
GRAND TOTAL OF EXPENDITURE ...	20,538 3 0	1,76,886 8 11	10,136 4 0	32,875 7 8	37,792 13 0	13,020 4 1	54,210 0 1	30,259 4 3	3,75,119 13 0

CALCUTTA :
The 14th June, 1887.

J. TAYLOR,
Assistant Comptroller-General (Forests.)

ANNUAL FORM No. 59.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Account Current for the year 1886-87.

	Rs. a. p	Rs. a. p.		Rs. a. p.	Rs. a. p
To opening Balance	...	1,917 0 11	By Expenditure as per Annual Form No 58	...	3,75,119 13 9
Assessed Taxes			„ Deposits	...	725 2 5
„ Income tax deductions from salary bills	..	1,853 1 5	*Forest Cash Remittances (Local)*		
„ Revenue as per Annual Form No. 58	...	6,58,674 8 6	„ Remittances to treasuries	4,85,774 14 2	
Service Funds.			„ Inter divisional transfers	33,195 14 3	5,18,969 13 5
„ Uncovenanted Service Family Pension Fund, Bengal ...	537 2 0		„ Advances recoverable	...	2,93,099 12 3
„ Military Fund, Bengal	361 2 0		„ Suspense	...	124 3 4
„ Military Orphan Fund, Bengal	210 0 0	1,108 4 0	*Account Current other Governments.*		
„ Deposit	...	744 2 5	„ Government of India	329 15 8	
Forest Cash Remittances (Local.)			Ditto of Panjáb	80 0 0	409 15 8
„ Forest cheques drawn	2,72,759 2 6		*Inter departmental transfers.*		
„ Inter-divisional transfers	36,738 7 1		„ Public Works Department State Railways—	Rs. a. p	
„ Advances recoverable	...	3,09,497 9 7	„ Rajputana-Malwa State Railway	2,770 0 0	
„ Suspense	...	3,84,177 0 3	„ Cawnpore-Achnera State Railway ...	13,628 1 2	...
Account Current other Governments.		124 3 4	„ Indian Midland Railway—		
„ Government of India	5,770 7 4		„ Cawnpore-Jhánsi section	24,025 0 0	...
Ditto of Panjáb	10 5 4	5,780 12 8	„ Cawnpore-Kálpi State Railway	11,134 11 6	...
Inter-departmental transfers.			„ Lucknow, Sitapur-Seramau Railway ...	2,496 1 8	...
„ Public Works Department State Railways—	Rs. a. p.		„ Provincial State Railways, North-Western Provinces and Oudh	70,868 2 1	1,72,323 0 5
„ Cawnpore-Achnera State Railways ...	228 10 0	...	„ Public Works Department other braches		97,241 14 10
„ Lucknow, Sitapur-Seramau Railways ...	43 9 6	339 3 6	„ Military Department, Bengal		2,405 15 1
„ Public Works Department other branches		62 4 0	*Civil Departments.*		
Civil Department.			„ Jail		12,943 14 8
„ Mathematical Instrument Department		134 8 0	„ Miscellaneous		124 1 9
„ Survey of India Department		10 8 0	„ Closing Balance	..	1,74,738 14 9
„ Law and justice		15 12 6			1,401 3 3
„ Jails		49 15 0	Total ...	...	13,64,388 14 1
		612 3 0			
Total ...	...	13,64,388 14 1			

CALCUTTA
The 13th June, 1887

J. TAYLOR,
Assistant Comptroller-General (Forests.)

ANNUAL FORM No. 60—[Prescribed.]

Forest Department, Oudh Circle.

Revenue received and Outstandings on account of revenue during 1886-87.

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.
		Rs.	Rs.	Rs.	Rs.	Rs.
Direction ...	Timber, grazing and other forest produce, &c.	...	...	...	...	...
Pilibhit ...	Ditto ditto ...	12	11,466	11,478	11,478	...
Bhira ...	Ditto ditto ...	857	7,061	7,618	7,011	607
Kheri ...	Ditto ditto ...	6,547	2,26,711	2,33,258	2,28,729	4,129
Bahramghát ...	Ditto ditto ...	46,408	1,73,796	2,20,199	2,18,006	2,193
Bahraich ...	Ditto ditto ...	2,729	58,778	61,507	59,157	2,350
Gorakhpur ...	Ditto ditto ...	4,796	1,07,296	1,12,092	1,08,332	3,760
Gonda ...	Ditto ditto ...	18	25 953	25,971	25,971	...
	Total ...	61,052	6,11,061	6,72,113	6,48,674	13,439

Naini Tal:
The 16th June, 1887.

R. WHITTALL,
Offg. Constr. of Forests, N.-W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 61—[Prescribed.]

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Outstandings and liabilities on account of Contractors and Disbursers for 1886-87.

Division.	*Department Debtor.*			*Department Creditor.*			*Balance due.*	
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstandings).	By Department (Liabilities)
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Direction ...	...	3,513 15 10	3,513 15 10	65 3 0	3,576 11 11	3,641 14 11	127 15 1	...
Kheri ...	49 0 0	2,40,208 2 6	2,40,257 2 6	1,25,339 9 0	1,66,173 0 1	2,91,512 9 1	51,310 5 8	55 6 1
Bhira Sub-Dn. ...	...	17,015 2 7	17,015 2 7	1,596 2 0	15,790 1 7	17,386 3 7	473 1 0	...
Bahramghát ...	...	3,957 0 3	3,957 0 3	363 3 1	5,024 1 11	5,387 10 0	1,430 9 9	...
Bahraich ...	...	41,443 9 11	42,443 9 11	2,396 11 0	40,178 13 7	50,077 8 7	7,638 7 8	4 9 0
Gonda ...	...	12,214 9 4	12,214 9 4	697 9 2	12,508 13 11	13,186 7 1	921 13 9	...
Gorakhpur ...	...	42,400 5 3	42,400 5 3	18,156 13 6	27,243 0 0	45,399 13 6	2,999 8 1	...
Pilibhit ...	...	22,423 11 3	22,423 11 3	893 2 9	22,646 1 3	23,498 4 0	1,074 8 7	...
Total ...	49 0 0	3 84,177 0 3	3,84,226 0 3	1,57,041 10 6	2,93,099 12 3	4,50,142 6 9	65,976 5 7	59 15 1

Calcutta:
The 13th June, 1887.

J. TAYLOR,
Asst. Comptroller-General, (Forests).

ANNUAL FORM No. 62.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Financial results of the year 1886-87.

Division.	*Timber and other produce removed from the forests by Government Agency*		*Other revenue.*		*Formation, protection and improvement of forests*	*Total.*		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Direction Division	*Nil.*		*Charges proportionately distributed.*					
Pilibhit ,, ...	1,572	1,676	9,906	14,849	16,936	11,478	32,543	
Bhira ,, ...	875	749	6,136	5,698	5,971	7,011	12,418	
Kheri ,, ...	1,93,560	1,74,693	35,149	18,969	22,346	4,46 739	2,16,008	
Bah amghát ,, ...	2,15,108							
Bahraich ,, ...	4,158	13,877	54,974	12,467	16,013	59 157	42,357	
Gonda ,, ...	641	127	25.530	8,099	7,085	25,971	15,302	
Gorakhpur ,, ...	64,245	26,154	41,766	11,251	19,087	1,06,322	56,492	
Total, 1886-87 ...	4,93,182	2,17,276	1,73,461	71 804	86,536	6,48,674	3,75,120	
,, 1885-87 ...	5,11,660	3,30,036	1.70,055	80,170	92,991	6,81.718	5,03,197	
Difference ...	−18,478	−1,12,758	+3,406	−8,366	−6,455	−33,039	−1,28,077	

Naini Tal:
The 16th July, 1887.

R. WHITTALL,
Offg Constr of Forests, N.-W. P. and Oudh. Oudh Circle.

APPENDIX I.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Summary showing the total yield in timber during the year 1886-87.

Description of trees.	Selection fellings, i. e. felling of mature trees.								Thinnings.								Clearances.								Total.	
	By Government agency.		By Contractors.		By villagers.		Total.		By Government agency.		By contractors.		By villagers		Total.		By Government agency.		By contractors.		By villagers.		Total.			
	No	C ft.	No.	C ft.	No.	C. ft	No	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.	No.	C. ft.
Sál ...	2,454	183 638	...	...	...	...	2,454	183,638	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,454	*183 638
„ ...	681	5,772	32	1,909	...	...	681	7,681	12,245	134,876	...	...	...	...	12,245	134,876	...	...	...	...	...	...	...	...	12,926	374 645
Asáina	294	14,970	271	7,913	...	...	565	21,883	...	...	...	...	...	...	...	...	...	...	...	185,908	...	79,000	...	264,908	723	86,913
Sisu	...	...	1	39	...	...	1	39	...	...	...	...	...	...	...	...	...	...	...	53,028	127	2,000	127	55,028	...	55,067
Haldu	95	6,956	...	...	...	...	95	6,956	...	...	...	...	...	...	...	...	...	...	...	2,109	...	...	...	2,109	1	2,145
Tikor	...	...	137	3,055	...	...	137	3,055	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	95	9,956
Kem	...	...	3	40	...	...	3	40	...	...	...	...	...	...	...	...	...	...	...	304	...	...	...	304	137	3,399
Jamun	...	...	3	95	...	...	3	95	15	25	...	...	...	...	15	25	...	...	...	...	...	...	...	...	1	40
Dhao	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	120
Mahua	...	...	...	...	...	...	...	...	3	50	...	...	...	...	3	50	...	...	...	46	...	...	5	46	5	46
Miscellaneous	...	...	...	...	2	49	2	49	1,690	2,909	...	...	...	...	1,690	2,909	1,672	7,388	177,063	177,063	2,714,337	2 710 337	2,893,072	2,894,696	2,891,919	2,903,238
Mixed	...	...	...	...	...	...	...	...	...	167,268	...	...	...	...	...	167,268	...	...	...	978,796	...	1,114,694	...	20,93,69	...	2,286,918
Drift	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	230	5,375	...	...	...	...	230	5,375	230	5,375
Total, 1886-87 ...	3,432	209 238	446	11,973	2	49	3,879	221,158	13,953	304,838	...	...	...	...	13,953	304,838	2,056	12 963	177,063	1,366,656	2,716,514	3,912,263	2 895,64	5 271,582	2,913,672	5,797,579
Total, 1885-86 ...	33,802	1,695,548	303	10,549	...	...	33,805	1,195,9.7	17,100	573,904	...	...	...	...	17,100	57°,904	10,170	165,396	179,090	1,369,960	462,780	2,890,018	652,03	4,422,381	703,225	6,178,182
Difference ...	−26,370	−886,310	+143	+1,423	+2	+48	−34,726	−974,739	−3,147	−269,066	...	...	...	...	−3,147	−269,066	−8,113	152,733	−2,032	−17,304	+2 253,134	+1,022,228	+2 243,020	+362,201	+2,206,147	†−381,396

* Selection fellings, Kheri.
† Loss, no new sleeper operations

Naini Tal:
Dated the 15th July, 1887.

R. WHITTALL,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

APPENDIX II.

FOREST DEPARTMENT, N.-W. PROVINCES AND OUDH, OUDH CIRCLE.

Yield in Produce.

Description of produce.	1885-86.		1886-87.		Difference.				Remarks.
					More.		*Less.*		
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity	Value.	
		Rs		Rs.		Rs.		Rs.	
Timber, cubic feet	3,999,759	15,01,917	3,536,660	11,78,887	...	...	373,090	1,23,030	Less timber felled owing to no new sleepers having been cut.
Firewood and charcoal	2,254,230	2,25,423	2,260,918	2,26,091	6,688	3,548	...	...	Increase owing to more fuel being extracted by right-holders and others.
Grazing dues	...	41,309	...	73,682	...	32,373			
Minor produce	...	42,131	...	71,457	...	28,326			
Total ...	6,163,980	16,10,780	5,797,578	15,50,117	66,88	64,847	373,090	1,23,030	

NAINI TAL:
The 15th July, 1887.

R WHITTALL,
Conservator of Forests N.-W. P. and Oudh, Oudh Circle.

APPENDIX No. III.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Statement showing disposal of produce collected by Government agency for 1886-87, *Compared with results of* 1885-86.

Description of produce.	*Sold locally* i.e., *not brought to Depôt.*				Depôt transactions.											
					Balance in hand at commencement of the year.				*Brought to Depôt.*				*Total received in Depôt.*			
	1885-86.		1886-87.		1885-86.		1886-87.		1885-86.		1886-87.		1885-86.		1886-87.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity	Value	Quantity.	Value.	Quantity.	Value.	Quantity	Value.
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Timber, cubic feet ...	4,795	3,938	5,375	5,304	10,10,764	7,32,400	19,29,228	5,91,435	26,35,228	11,61,324	8,51 939	7,39,360	36,45,612	18,93,724	27,81,167	14,29,795
Firewood, maunds ...	...	...	11	2	7,189	732	1,400	56	93,679	10,253	57,473	4,088	100,629	10,985	58,932	4 111
Charcoal, maunds ...	...	...	...	...	50	25	14	7	...	...	...	...	50	25	14	7
Minor produce ...	3,469	56	...	...	...	...	...	...	...	...	4,941	2,124	...	...	4,94	2,424
Total ... { Cubic feet ...	4,795	3,994	5,375	5,306	10,10,364	7,33,157	19,29,228	5,91,498	26,35,228	11,71,577	8,51,939	7,45,839	36,46,612	19,04,734	27,81,167	14,36,337
{ Maunds ...	3,469		11		7,200		1,414		93,679		57,473		1,00,679		58,887	

Description of produce.	Depôt transactions.															
	Removed by purchasers from Depôt.				*Converted in Depôt.*				*Lost or written off.*				*Used by Department.*			
	1885-86.		1886-87.		1885-86.		1886-87.		1885-86.		1886-87.		1885-86.		1886-87.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity	Value.
		Rs.		Rs		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Timber, cubic feet ...	3,05,264	4,97,719	5,30,821	4,71,158	11,22,738	5,61,369	2,21,4.6	1,10,703	4,621	2,310	17 666	8,833	12,267	6,134	23,650	11,825
Firwood, maunds ...	98,054	10,674	35,896	3,386	...	...	...	...	1,275	255	...	...	...	...	...	...
Charcoal, maunds ...	36	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Minor produce ...	...	...	1 10[illegible]	860	...	...	...	...	...	...	3	1	...	...	15	8
Total ... { Cubic feet ...	3,05,264	5,08,421	5,30,821	4,75,404	11,22,738	5,61,369	2,21,416	1,10,703	4,621	2,565	17,666	8,834	12,267	6,134	23,650	11,833
{ Maunds ...	98,090		36,794		...		...		1,275		3		...		15	

APPENDIX No. III.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Statement showing disposal of produce collected by Government Agency for 1886 87, *compared with results of* 1885-86—(concluded).

Description of produce.	Depôt transactions.												Remarks.
	Transferred to sale Depôt.				*Total issued from Depôt*				*Balance in hand at close of the year.*				
	1885-86.		1886-87.		1885-86.		1886-87.		1885-86.		1886-87.		
	Quantity.	Value.	Quantity.	Value.	Quantity	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.	
Timber, cubic feet ...	271,494	1,35,747	503,919	2,51,959	1,716,334	12,03,289	1,347,472	8,54,478	1,929,228	6,90,438	1,433,695	575,317	
Firewood, maunds ...	...	...	...	...	99,329	10,929	35,686	3,386	1,400	56	18,248	725	
Charcoal, ,, ...	...	...	...	...	36	18	...	...	14	7	14	7	
Minor produce ...	...	...	...	...	...	...	1,126	869	...	...	3,815	1,555	
Total ... Cubic feet,	271,494	1,35 747	503,919	2,51,959	1,716,334	12,14,236	1,347,472	8,58,733	1,929,228	6,90,498	1,433,695	5,77,604	
Maunds ...	...		...		99,365		36,812		1,414		22,075		

NAINI TAL :
The 15th July, 1886.

R. WHITTALL,
Offg. Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

APPENDIX IV.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Statement of forest produce given free to privileged villagers during 1886-87.

Division	Description of produce.	Number or quantity.	Amount.	Remarks.
	I.—Reserved Forests		Rs.	
Pilibhit	Sapling and poles, &c., loads	86,781	24 500	To right-holders in pargana Puranpur in the Pilibhit district.
	Sál and miscellaneous wood, ,,	3,401	2,183	
	Sugar mills and poles, &c., No.	511	1,274	
	Firewood, maunds	152,246	5,091	
	Minor produce, ,,	18,087	4,516	
	Grazing dues, ,,	..	23,275	
	Total	..	60,842	
Bhira	Saplings and poles, &c, cubic feet	36,480	724	To privileged villagers.
	Firewood, ,,	76,009	147	
	Minor produce, ,,	.	413	
	Total		1,284	
Kheri	Timber, poles and saplings, cubic feet,	226,784	5,035	
	Firewood ,,	235 282	470	
	Minor produce ,,	...	6,514	
	Grazing dues	...	1,178	Tharua cattle.
	Total	...	13,197	
Bahraich	Timber, poles and saplings, cubic feet,	1,324,014	22,968	
	Firewood ,,	276,540	1,144	
	Minor produce	...	3,395	
	Total	...	27,508	
Gonda	Assina number	2 000	500	To District Engineer, Gonda, for district roads.
	Timber, poles and saplings, cubic feet,	132,761	8,116	To privileged villagers.
	Firewood ,,	75,552	322	
	Minor produce, maunds	18,570	584	
	Total		9,522	
	GRAND TOTAL	..	1,12,350	
	ABSTRACT OF THE CIRCLE.			
	I.—Reserved Forests.			
	Timber, cubic feet	2,797,477	65 300	
	Firewood, ,,	1,114 834	7,177	
	Minor produce, maunds	569,857	15,420	
	Grazing dues	424,967	24,453	
	Cubic feet	5,912,311	.	
	GRAND TOTAL	979,919	1,12,350	

N. B.—There are no protected or "unclassed State forests and waste lands" in the Oudh Circle.

NAINI TAL:
The 15th July, 1887.

R WHITTALL,
Offg. Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

APPENDIX V.

FOREST DEPARTMENT, N.-W. P. AND OUDH, OUDH CIRCLE.

List of Buildings.

Description.	Pilibhit	Bhira.	Kheri.	Bahraich.	Gonda.	Gorakhpur.	Total.	Remarks
1st class double storied rest-house	1	2	6	...	3	1	...	13
1st ,, single ,, ,, ,,	.	...	1	2	5	...	1	9
2nd ,, double ,, ,, ,,	...	...	4	...	...	...	...	4
2nd ,, single ,, ,, ,,	...	.	...	...	...	...	8	8
3rd ,, double ,, ,, ,,	7	6	...	...	...	...	1	14
3rd ,, single ,, ,, ,,	...	...	...	...	9	2	...	11
Total	8	8	11	2	17	3	10	59
Total up to 1885-86	8	8	11	2	17	3	10	59
During 1886-87	...	...	...	...	...	...	...	...

NAINI TAL:
The 15th July, 1887.

R. WHITTALL,
Offg. Conservator of Forests, N. W. P. and Oudh, Oudh Circle.

APPENDIX VI.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Abstract showing existing roads and fire lines to end of March, 1887.

		Pilibhit		Bhira.		Kheri.		Bahraich		Gonda		Gorakhpur		Total.	
		Miles.	Furlongs.	Miles.	Furlongs.	Miles.	Furlongs.	Miles.	Furlongs.	Miles.	Furlongs.	Miles.	Furlongs.	Miles	Furlongs
Main roads	100′ wide	...	...	...	...	...	...	...	...	9	½	...	...	9	½
,, ,,	50′ ,,	...	...	...	...	...	...	...	...	...	...	7	...	7	...
,, ,,	45′ ,,	...	...	...	...	...	...	23	1	...	...	...	...	24	1
,, ,,	40′ ,,	...	...	...	...	...	...	...	...	23	7	...	...	23	7
,, ,,	30′ ,,	...	...	6	4	...	...	54	3	...	...	12	4½	74	3
,, ,,	20′ to 40′ ,,	...	...	11	6	...	...	...	...	...	...	...	...	11	6
,, ,,	20′ ,,	...	...	...	...	17	4	32	1	...	...	8		57	5
Cart ,,	18′ ,,	...	...	...	...	28	...	...	...	...	...	...	...	28	...
,, ,,	15′ ,,	156	4½	99	6	194	3½	232	2	21	...	22	4½	726	4½
Path ,,	10′ ,,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
,, ,,	8′ ,,	39	2½	89	4	...	...	...	...	...	...	...	...	78	6½
Export ,,	6′ ,,	3	7	...	...	...	...	...	...	...	...	...	...	3	7
Total	1886-87	199	5½	157	4	229	7½	341	7	53	7½	51	0½	1,044	0½
	1885-86	156	...	145	2	289	7½	341	7	53	7½	44	4	981	4
During	1886-87	43	5½	12	2	...	...	...	...	...	...	6	4½	62	4½

NAINI TAL.
The 15th July, 1887.

R. WHITTALL,
Offg Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

APPENDIX VII

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Summary of Revenue in the whole Circle, from 1877-78 *to* 1886-87.

Budget Heads.	Direction	Pilibhit.	Bhira.	Kheri.	Bahramghát	Bahraich	Gonda.	Gorakhpur	Total	Per cent.
	Rs.	Rs.	Rs.	Rs.	Rs	Rs.	Rs	Rs	Rs	
I.—Timber and other produce removed from the forest by Government Agency —										
a. Timber	...	326	109	15,73,349	13,68,921	1,01,462	13,873	1,22,256	32,70,126	65 48
b Firewood and charcoal	...	11,695	155	2,036	2,501	4,561	389	14,798	34,118	0·72
c Bamboos	...	...	...	..	...	...	...	...	...	...
d. Sandal wood	...	...	...	...	..	..	...	...	..	...
e. Grass and other minor produce	...	40	3 560	52	9	265	...	73	3,999	0·08
Total ...	..	12,041	3,824	15,75,437	13,91,434	1,06,288	14 262	2,07 157	35 10,443	6u 28
II.—Timber and other produce removed from the forest by consumers or purchasers —										
a. Timber	...	13 901	2,452	1,28,862	...	2,89,497	80 570	2,35,788	7 56,470	15 14
b Firewood and charcoal	...	36,987	2,970	4,190	...	7,351	11,761	99,524	1,62 787	3 26
c Bamboos	...	..	...	...	...	348	..	..	348	...
d Grazing and fodder grass	..	2,973	27,204	1,50,515	...	1,19,4 5	59 166	35 207	3,80 520	7·62
e. Other minor produce	...	15,869	12,548	68,045	...	1,01,973	39,773	59,949	2,93,457	5·88
Total ...	...	73 690	51,174	3,31,612	...	5,18,6-6	1,91,270	4 29,170	15,98,582	32·00
III.—Drift and waif wood and confiscated forest produce ...	...	3,495	273	7,667	2 916	15,292	3,272	986	33,930	0 68
IV.—Revenue from forests not managed by Government —										
a Duty on foreign timber and other forest produce,	...	..		...	...	..	..	..	...	...
b Revenue from shared and private forests ...				...			..	..		
V.—Miscellaneous —										
a. Fines and forfeitures	...	616	237	600	9	733	228	267	2,690	0 05
b. Refunds	11	6·8	10·	2,713	16	110	69	298	3,983	0 08
c. Other sources	1	2,301	1,511	19,412	3,938	5,284	1,839	10,927	45,316	0 91
Total ...	12	3,476	1,8·8	22,925	3,963	6,127	2,136	11,492	51,989	1·04
Grand Total ...	12	95,704	57,126	19,37,641	13,98,343	6,46,273	2,10,940	6 48 905	49 94,944	100 00

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Summary of Expenditure in the whole Circle, from 1877-78 *to* 1886-87.

Budget heads	Direction	Pilibhit.	Bhira.	Kheri.	Bahramghát.	Bahraich.	Gonda.	Gorakhpur.	Total.	Per cent.
A.—Conservancy and Works.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs	Rs.	Rs.	
I.—Timber and other produce removed from the forests by Government Agency—										
a. Timber	9	511	152	12 46 637	2,74,702	35,172	6 981	74,150	16,98,3'4	50·85
b Firewood and charcoal		9,473	206	5,936	...	20,735	36	11,798	48,234	1 44
c. Bamboos	...	...	...	...	...	...	...	...	...	...
d. Sandalwood	...	...	...	...	...	...	...	...	...	...
e. Grass and other minor produce	...	24	1,021	15	...	50	452	...	1 572	0 05
Total	9	10,1 18	1,379	13,52,638	2,34,702	55 9>7	7,469	85,948	17,18 130	52 ·4
II.—Timber and other produce removed from the forests by consumers or purchasers.	93	22,421	10,105	13,852	...	18,807	5,775	6 6.0	81,503	2 44
III.—Drift and waif wood and confiscated forest produce	...	207	24	1,166	1 586	138	409	281	3 815	0 13
IV.—Revenue from forests not managed by Government :—										
a Duty on foreign timber and other forest produce	...	...	...	...	...	...	...	...	...	...
b Revenue from shared and private forests	...	...	...	...	...	...	...	...	...	...
V.—Rent of leased forests and payments to shareholders in forests managed by Government.	...	...	...	...	...	...	...	...	...	...
VI.—Livestock, stores, tools and plant :—										
a. Purchase of cattle	...	194	250	11,857	96	4.720	2,824	...	19,941	0 56
b Feed and keep of cattle	...	5,736	1,753	23,772	4,277	7,550	5,606	6,332	55,727	1·65
c. Purchase of stores, tools and plant	67	1,270	877	6,512	16,101	2 732	812	1,315	29,886	0 89
Total	67	7,200	2,880	41 862	20,5 4	14,-02	6,642	7,641	1,05,554	3·10
VII.—Communications and buildings—										
a. Roads and bridges	...	13 916	8,914	60,343	1,570	31,479	4,011	4,948	1,25,483	3 76
b. Buildings	...	11,621	8 673	51 452	7,768	44,483	9,266	14,732	1,50,022	4 49
c. Other works	...	2,619	3,087	10,296	...	8,666	438	1,595	26,796	0 80
Total	..	28,158	20,674	1,24 121	9,338	84,628	13,710	21,275	3,02,311	9·05
VIII.—Demarcation, improvement, and extension of forests—										
a. Demarcation	...	7,453	4,067	3,421	...	12,017	1,565	6,144	34 667	1·04
b Compensation for land and rights	...	. 66	1,389	...	...	163	...	535	2 153	0 06
c. Surveys and working plans	...	165	50	2,917	...	113	25	176	3,516	1·10
d. Sowing and planting	...	312	312	2,467	...	1,160	65	21,923	26,359	0 79
e Protection from fire	...	12,732	11,497	26,279	...	18,528	1,860	15,255	86, 60	2·58
f. Other works	...	153	146	2,919	...	7,732	2,416	28,900	40,269	1 21
Total	...	20,881	17 471	38 056	...	39,813	5,960	70,943	1,93,124	6 75
IX.—Miscellaneous :—										
a Refunds	...	60	..	1,824	...	1,318	7	...	3,169	0·10
b Law charges	...	15	45	54	31	64	3	1,510	1,722	0·05
c. Other charges	24	1,202	1,273	6,827	644	3,241	474	911	14,336	0·43
Total	24	1,277	1,318	8,5o5	675	4,423	484	2,421	19,227	0·58
Total, A.—Conservancy and Works	193	90,172	57,855	15,82,010	2,67,072	2,18 668	40,389	1,95,165	24,51,534	73·41

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Summary of Expenditure in the whole Circle, from 1877-78 *to* 1886-87.

Budget heads	Direction.	Pilibhit.	Bhira.	Kheri.	Bahramghát.	Bahraich.	Gonda.	Gorakhpur.	Total.	Per cent.
B.—Establishments.	Rs.	Rs.	Rs.	Rs	Rs.	Rs.	Rs.	Rs.	Rs.	
I.—Salaries:—										
a. Conservator	1,44,456	...	...	...	...	...	...	...	1,44,456	4·32
b. Superior officer	...	56,755	20,838	1,16,641	19 661	52 886	27,728	42,671	3,37,178	10·10
c. Subordinate forest and depôt establishment	19	5,234	9,192	52,284	2,775	28,219	15,297	48,679	1,61,699	4·84
d. Office establishments	20,018	5,833	426	23,014	3,474	11 549	3,820	4,695	72,829	2·18
e. Deputation and special allowances	1 0	...	...	1,090	40	...	...	164	1,754	0·05
Total ...	1,64 593	67,862	30,456	1,93,029	26,313	92,654	46,840	96,169	7,17,916	2· 49
II.—Travelling allowances:—										
a. Conservator	16 720	...	...	...	...	...	...	...	16,720	0 50
b. Superior officers	...	6,598	3,966	24,037	2,165	13,527	6,578	13,826	70,697	2·12
c. Subordinate forest and depôt establishment	...	1,117	1,104	10,192	10	3,846	2,359	1,464	20,092	0 60
d. Office establishments	4,893	1,227	122	6,364	117	3,583	1,134	1,555	18,992	0 57
Total ...	21,610	8,942	5,192	40,593	2,292	20,956	10,071	16,846	1,26,501	3·79
III.—Contingencies:—										
a. Stationery	73	124	84	430	31	122	92	81	1 037	0·03
b Carriage of tents and records	2,761	385	385	1,114	...	1,369	780	776	7,570	0·23
c Rents, rates and taxes...	1,935	655	612	370	...	169	729	1,340	5,810	0·17
d Pay of police guards	...	1,013	...	2,522	1,443	990	1,152	321	7,441	0 22
e. Official postage	1,861	305	253	1,047	572	675	339	396	5,388	0·16
f. Sundries	3,257	741	605	5,509	490	2,286	1,575	1,951	16,414	0·49
Total ...	9,827	3,223	1,939	10,992	2,536	5,611	4,667	4,865	43,650	1·30
Total—Establishments ...	1,96,030	80,027	37,587	2,44,614	31,141	1,19,221	61,578	1,17,879	8,88,077	26·59
Grand Total of Expenditure ...	1,96,223	1,70,169	95,442	18,76,654	2,98,213	3,37,889	1,01,967	3,13,044	33 39,631	100·00
Surplus ...	—1,96,211	—74,495	—38,316	1,10,957	11,00,130	3,08,484	1,08,973	2,35,771	16,55,313	...

APPENDIX VIII.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Summary of Revenue in the whole Circle.

Budget heads.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	Total.	Per cent.
I.—TIMBER AND OTHER PRODUCE REMOVED FROM THE OTHER FORESTS BY GOVERNMENT AGENCY :—	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
a. Timber	2,15,060	1,74,308	2,38 996	1,21,040	1,21,035	2,01,819	6,20,523	4 62,352	4 97,729	4,77,433	32,70,325	65 48
b. Firewood and charcoal	906	4,185	3,356	180	1,003	140	2,067	10,754	10,691	8,286	36,118	0 72
c. Bamboos	...	...	...	...	...	..	...	...	...	...	...	...
d. Sandalwood	...	...	...	...	...	...	...	...	...	...	...	...
e. Grass and other minor produce	...	4	57	...	565	...	...	18	2,795	560	3,999	0·08
	2,15 966	1,78,497	2,42,409	1,21,170	1,22,303	2,01,959	6,22,590	4,72,654	5,11,215	4,81,679	33 10,442	66 28
II.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS.												
a. Timber	1,25,516	74,931	66,113	75,107	97,785	68,723	67,432	48,819	60,563	50,428	7,56,467	15 17
b. Firewood and charcoal	12,141	8,780	12,999	14,938	16,907	17,677	31,871	21,750	14,304	10,424	1,62,791	3·26
c. Bamboos	72	157	13	26	6	15	58	...	...	..	349	0·01
d Grazing and fodder grass	34 327	30,813	42,918	40,178	32 985	35.167	34,723	38,226	41,309	50 271	3,80,517	7 63
e. Other minor produce	10,421	9,247	15 478	24,557	34,160	30,865	36,879	42,928	42,131	51,092	2,98 458	5 98
	1,82,477	1,24,678	1,37 521	1,54 806	1 81,845	1,72 447	1.7 ,563	1,52,723	1,58,3 7	1,62,3 5	15,9 ,582	32 00
III.—DRIFT AND WAIF WOOD AND CONFISCATED FOREST PRODUCE:—	1,524	1,718	2,725	3,414	4,314	3,901	4,810	3,734	3,994	4,794	33 971	0·68
IV.—REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT:—												
a. Duty on foreign timber and other forest produce ...	...	...	...	...	...	...	...	...	...	...	...	...
b. Revenue from shared and private forests ...	...	...	...	...	...	...	...	...	...	...	...	...
V.—MISCELLANEOUS:—												
a. Fines and forfeitures	90	23	61	121	119	133	227	611	772	530	2,689	0 05
b. Refunds	1,*92	106	190	701	144	738	13	241	457	64	3,981	0·08
c. Other sources	1,803	1,548	2 012	1,768	2,420	5,252	6,830	7.558	6,937	9,393	45,321	0 91
	2,985	1,677	2,265	2,590	2,683	6,123	7,075	8,410	8,196	9,987	51,991	1 04
TOTAL ...	4,02,952	2,96,570	3,84,923	2,81,980	3,11,145	3,84,430	8,05,538	6,37,021	6,81,712	6,58,675	49,94,946	100 00

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Summary of Expenditure in the whole Circle—(continued).

Budget Heads.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	Total.	Per cent.
A.—Conservancy and Works.												
I.—Timber and other produce removed from the forest by Government Agency:—	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
a. Timber	82,954	1,06,093	87,725	71,246	68,811	1,34,896	3,17,151	3,39,393	3,06,782	1,713,61	16,96,215	50·85
b. Firewood and charcoal	3,876	3,338	1,143	15	6	14	3,033	10,438	16,513	9,635	48,238	1·44
c. Bamboos	...	...	...	...	...	...	...	...	...	...	...	...
d. Sandalwood	...	...	...	...	...	...	...	...	...	...	...	...
e. Grass and other minor produce	15	...	...	1	50	...	...	65	701	740	1,572	0·05
	86,845	1,09,431	98,891	71,262	68,869	1,34,910	3,14,184	3,49,896	3,23,996	1,89,816	17,46,120	52 34
II.—Timber and other produce removed from the forests by consumers or purchasers.	3,475	3,560	6,014	6,687	9,633	5,730	9,012	10,856	11,756	12,730	81,503	2·44
III.—Drift and waif wood and confiscated forest produce...	10	11	75	172	438	339	224	116	464	1,968	3 817	0 12
IV.—Revenue from forests not managed by Government:—												
a. Duty on foreign timber and other forest produce	...	...	...	...	...	...	...	...	...	...	...	...
b. Revenue from shared and private forests	...	...	...	...	...	...	...	...	...	...	...	...
V.—Rent of leased forests and payments to shareholders in forests managed by Government.												
VI.—Live stock, stores, tools, and plants:—												
a. Purchase of cattle	3,925	2,100	6,920	320	...	56	3,717	57	...	2,246	19,841	0·56
b. Feed and keep of cattle	5,470	4,938	5,076	6,145	6,137	5,298	5,121	5,975	5,696	5,239	55,025	1·65
c. Purchase of stores, tools, and plant	1,758	2 860	2,273	1,760	910	3,599	13,047	1,140	2,331	1,285	29,663	0 89
	10,453	9,798	14,269	8,245	7,047	8,953	20,885	7.172	7,957	8,770	1,03,849	3·10
VII.—Communications and buildings:—												
a. Roads and bridges	8,499	8,754	13,854	11,966	11,796	12,285	13,092	20,370	11,843	13,028	1,25,487	3·76
b. Buildings	11,775	13,856	16,583	18,688	21,291	16,612	9,009	17,146	13,460	12,102	1,80,022	4·49
c. Other works	2,598	3,933	2,171	3,274	2,973	2 641	1,318	3,478	1,142	2,213	26 715	0·80
	22,872	26,544	32,608	33,928	36,059	31,538	23,444	40,994	26 985	26,343	3,02,214	9·05
VIII.—Demarcation, improvement, and extension of forests:—												
a. Demarcation	4,003	4,808	3,896	2,210	3,888	2,589	1,757	4,393	3,453	3,673	34,670	1 04
b. Compensation for land and rights	143	...	1,125	40	22	...	218	21	34	550	2,153	0·05
c. Surveys and working-plans	49	...	93	281	81	25	...	...	1,053	1,912	3,514	1·10
d Sowing and planting	13	...	4	989	2,143	3,667	4,032	6,164	5,353	3,996	26,361	0·78
e. Protection from fire	3,464	4,799	5,327	7,405	9,283	9,730	10,469	11,197	10,825	13,560	86,159	2·58
f. Other charges	1,420	2,522	2,963	3,624	2,974	3,798	8,043	9,138	4,828	4 458	40,269	1·21
	9,092	12,130	13,408	14,649	18,491	19,789	21.519	31,823	25,046	28,249	1,93,126	6 75
IX.—Miscellaneous.—												
a. Refunds	774	1,636	141	33	188	...	...	...	554	147	3,168	0·10
c. Law charges	33	65	2	21	33	14	...	1,176	211	225	1,790	0 05
b. Other charges	1,016	2,039	1,124	602	1,034	1,029	1,218	3.331	1,862	1,689	14,886	0·43
	1,823	3,740	1,267	656	1,259	1,043	1,218	4,447	2,824	1,452	19,224	0·58
Total, A.—Conservancy and Works	1,34,870	1,64,213	1,56,532	1,35 599	1,40,747	2,05,302	3,90,486	4,44,204	3,86,532	2,71,368	24,51,553	73 41

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Summary of Expenditure in the whole Circle—(concluded).

Budget Heads.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	Total.	Per cent.
B.—Establishments.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
I.—Salaries:—												
a. Conservator	12,000	12,000	11 967	12,000	13,493	15,948	17,379	18,000	17,618	14,054	1,44,456	4 32
b. Superior officers	20,511	22,561	26 566	30,922	29,263	27,859	39 474	45,686	45,664	48,731	3 37,176	10·10
c. Subordinate forest and depôt establishments ...	18,057	14,422	16,898	16 374	16 220	15,572	15,296	15 261	15,303	15,295	1,61,698	4·84
d. Office establishments	7,325	7,359	7 321	6,807	7,713	7,364	7,4 9	7,164	7,345	7,113	72,830	2·18
e. Deputation and special allowances	...	1,090	400	...	...	...	164	50	...	50	1,754	0·05
	57,893	60,432	63,152	66,103	66,706	66,743	79,732	85,081	85,930	85,242	7,17 914	21·49
II.—Travelling Allowances:—												
a. Conservator	1,714	1,848	1,577	1,631	1,359	1,575	1,561	1,757	1,825	1,673	16 720	0·50
b Superior officers	4,534	5,5 6	6,618	5,895	7,428	6,626	8,641	10,279	7,902	7,054	70 693	2·12
c. Subordinate forest and depôt establishments ...	1,696	1,868	1,956	1,834	1,989	1,708	2,273	2,106	2,214	2,631	20 099	0·60
d. Office establishments...	1,830	1,684	1,886	1,874	1,899	2,022	1,847	1,924	1,855	2,099	18,990	0·57
	9,773	10,916	12,037	11,234	12,675	12,196	14,322	16,066	13,826	13,457	1,26,502	3·79
III.—Contingencies:—												
a. Stationery...	212	174	83	128	100	85	62	96	39	59	1,087	0·03
b. Carriage of tents and records	720	546	831	771	711	775	682	724	838	974	7 572	9·23
c. Rents, rates, and taxes	606	622	460	463	601	600	617	622	612	610	5 813	0·17
d. Pay of police guards...	...	633	763	788	886	921	906	916	834	795	7,442	0·22
e. Office postage	541	559	513	551	407	490	564	526	574	669	5 387	0·16
f. Sundries	1,632	1,507	1,176	1,398	1,673	1,595	1,843	1,623	2,012	1,954	16,413	0·49
	3,711	4,041	3,826	4,099	4,378	4,466	4 674	4,507	4,909	5,053	43,854	1·30
Total, B.—Establishments ...	71,377	75,389	79,015	81,436	83,759	83,405	98,728	1,06,554	1,04,665	1,03,752	8,88,060	26·59
Grand Total of Expenditure ...	2,05,247	2,39,602	2,45,547	2,17,035	2,24,506	2,88,707	4,89,214	5,50,758	5,03,197	3,75,120	33,39,634	100·00
Surplus ...	1,97,005	1,20,968	1,39,376	64,945	86,639	95,723	3,16,324	2,26,263	1,78,515	2,83,555	16,55,312	...

No. 102 of 1887.

From

W. R. FISHER, Esq.,

Offg. Conservator of Forests, School Circle,

To

The Secy. to Govt., N.-W. P. and Oudh,

in the Revenue (Forests) Dept.

Dated Dehra Dún, the 28th August, 1887.

Sir,

I have the honor to submit herewith my report on the administration of the School Circle for the year 1886-87.

2. Owing to the late breaking of the monsoon, which necessitated the retention of fire guards in the Saháranpur division till the 1st July, 1887, I did not receive all of the divisional fire reports till the 17th July, and was therefore unable to despatch the manuscripts of the Circle report to the Press before the 22nd July, and the final proof was despatched from my office on the 22nd August, 1887.

I have the honor to be,

Sir,

Your most obedient servant,

W. R. FISHER,

Offg. Conservator of Forests, School Circle.

SCHOOL CIRCLE REPORT.

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N.-W. PROVINCES AND OUDH.

SCHOOL CIRCLE.

ANNUAL PROGRESS REPORT
OF
FOREST ADMINISTRATION
FOR THE YEAR 1886-87.

By Mr. W. R. Fisher, B. A., Officiating Conservator of Forests, School Circle.

INTRODUCTION.

Although much steady work has been done throughout the year, the results are not so good as in 1885-86. The area of fire-conserved forests has been increased by 64,045 acres, but large fires extending over 37,696 acres have occurred, chiefly owing to incendiarism and to the excessively dry hot season.

Whilst the revenue of the circle has kept up, the expenditure has increased considerably, and the surplus has fallen from Rs. 1,29,806 to Rs. 69,516.

This is chiefly due to the reduced price of sleepers, Re. 1-14-0 to Re. 1-11-0, and to the cost of preparation of the large number in hand, as well as of fuel in the Jaunsár Division, in order that dry fuel might be supplied next year to the Commissariat Department.

Also to the limited number of standing trees sold in Dehra Dún, as the cutting and export of those sold in the previous year in the Chandrabani forest was postponed by the contractor, owing to the difficulty in getting sawyers.

The final settlement of rights of villagers in the forests of Jaunsár and the demarcation of plots of cultivation within the reserves is essential before the working plan can be completed, and the matter has been referred for orders to the Local Government. Settlement of rights is also not yet effected in the other forests of the circle.

Staff of officers.

2. Mr. W. R. Fisher has retained officiating charge of the circle and of the forest school, Major Bailey having been deputed temporarily to the Punjáb Conservatorship on his return from furlough in March last.

Mr. McA. Moir was absent on furlough until March 3rd, when he resumed charge of the Jaunsár Division from Mr Hobart-Hampden.

Mr. A. Smythies made over charge of the post of Instructor at the forest school to Doctor Warth on the 26th July, 1886, and has held charge of the Dehra Dún Division throughout the year.

Mr. N. Hearle returned from the Central Circle after three months' privilege leave on the 5th October, 1886, and has since been in charge of the Tihri leased forests and Chakráta fuel forests working plans.

Mr. Hearle passed in Law and Land Revenue in October, 1886.

Mr. M. H. Clifford was in charge of the Saháranpur Division until the 14th March, when he proceeded on three months' privilege leave.

Mr. A. G. Hobart-Hampden remained in charge of the Jaunsár Division till the 3rd of March, and assumed charge of the Saháranpur Division on the 14th of the same month.

Babu Karuna Nidhan Mukarji, Sub-Assistant Conservator of Forests, was attached to the Dehra Dún Division throughout the year, for though he was transferred to the Oudh Circle in March, he did not actually join his new appointment till after the close of the financial year.

His services were applied for, for temporary charge of the Conservatorship of the Baroda State Forests during the year, but could not be spared by Government.

The staff of officers in the circle at the close of the year stood as follows:—

Mr. W. R. Fisher, B. A.	... Officiating Conservator of Forests and Director of Forest School.
Mr. E. McA. Moir	... Deputy Conservator of Forests, 3rd grade, officiating in 2nd grade, in charge of Jaunsár Division.
Mr. A. Smythies, B. A.	... Deputy Conservator of Forests, 4th grade, officiating in the 3rd grade, in charge of Dehra Dún Division.
Mr. N. Hearle	... Deputy Conservator of Forests, 4th grade, in charge of working plans of Tehri Garhwál leased forests and of the Chakráta fuel forests.
Mr. M. H. Clifford	... Assistant Conservator of Forests, 1st grade, Officiating Deputy Conservator of Forests, 4th grade, on privilege leave.
Mr. A. G. Hobart-Hampden	... Assistant Conservator of Forests, 1st grade, Officiating Deputy Conservator of Forests, 4th grade, in charge of the Saháranpur Forest Division.

3. The following officers of the province took part in the instruction at the forest school as follows:—

Mr W. R. Fisher	... Morphological and Physiological Botany.
Mr. A. Smythies	... Mathematics.
Mr. N. Hearle	... Systematic Botany.
Mr. A. F. Broun	... Forest Law and Systematic Botany.
Mr. M. H. Clifford	... Injuries of plants by insects, &c.
Forest Ranger, Har Swarúp	... Instruction of vernacular students in forestry.

4. Rs. 17,462 was expended by the Provincial Public Works Department on the 32 students' quarters referred to in last year's report and on the collection of material for new quarters, being Rs. 14,643 for the quarters completed and Rs. 2,819 on collection of material.

Rent amounting to Rs. 396 was charged to students occupying the quarters and credited in the Direction Division.

Much correspondence has taken place regarding the completion of the remaining quarters, and other school buildings, and plans and estimates for these are being prepared by the Executive Engineer, Meerut Division.

The Divisions.

5. **Dehra Dún Division.**—The main operations of the year in the Dehra Dún Division were as follows :—

(1) Extension of fire-conservancy to all the sál forests in the division, an increase in the protected area from 200 to 232 square miles.

(2) Leases of fallen dead wood and minor produce for Rs. 7,638 as compared with Rs. 13,934, the average of the last five years.

Standing dead wood and much grass is now sold by rawanahs, and the completion of the railway to Hardwár has reduced the demand for limestone and other produce.

(3) Control of the timber export on the Ganges river and departmental collection of drift timber.

(4) The following standing trees were sold by auction :—6,285 sál and 251 sain for Rs. 8,600, being about Rs. 1-5-0 per tree, a falling off of 11 annas each since last year, owing to the bad quality of the wood.

Besides these, there were other less important sales of standing trees, and 13,000 kukat ballis, &c., were supplied for the Ganges Canal.

(5). Construction of the Phandowala forest rest-house, still incomplete.

Regarding the improvements required, it is hoped to introduce a better system of tickets for fuel and minor produce.

The following are also required :—

I.—Good houses for headquarters of range officers.

II.—Publication of the working plan of the forests.

III.—A regular system of coppice over a sufficient area in the Eastern Dún for the supply of kukat timber to the Ganges Canal.

6. **Saháranpur Division**.—The annual leases of fallen dry fuel and minor produce realized Rs. 22,335 compared with Rs 18,441 in previous year, and Rs. 17,030, the average of the last five years.

The improvement fellings in the Lakarkot sál forest were continued, to the great benefit of the forest growth and a fair margin of profit to the department.

The area under fire-conservancy was increased from 161 square miles to 224 square miles, and now includes all the forest above the Hardwár-Khára road, as well as a large area below it.

The improvements called for comprise :—

(1) A working plan for the forests, by which more fuel fellings will be available.

(2) An officer's rest-house at Kastmri, the construction of which is delayed owing to non-submission of plans and estimates by divisional officer.

(3) Gradual improvement of Khára-Hardwár road into a good cart-road.

(4) Complete definition of the boundaries in the western range which are still disputed.

(5) Improvement in the system of collecting data as to the effects of fire-conservancy on the floods which affect the Ganges and Jumna Canals.

7. **Jaunsár Division**.—The main operations of the year have been—

(1) Collection of materials for working plans of the Tihri leased deodar forests and the Chakráta fuel forests.

(2) Fire-conservancy on an area of 152 square miles as compared with 147 square miles last year.

(3) Fuel supply to the Chakráta Cantonment and supply of scantlings to Military Works Department.

(4) Supply of nearly one lakh of metre gauge sleepers to the Bombay, Baroda and Rajputana Railway, and completion of a three-years' contract with the railway for the supply of one lakh of sleepers per annum.

(5) Sale of 1,638 standing chír trees @ Rs. 3-8-0 to Rs. 4 per tree.

(6) Control of timber traffic on the Jumna river.

(7) Preparation of plan and estimates for a fuel sledge road from Deoban to Chakráta.

The chief requirements are as follows:—

(1) Settlement of the Raja of Sirmúr's claims on the Jumna river, including the acquirement by purchase or permanent lease of the depôt lands lately acquired by him from the Annfield Tea Company, the agreement referred to in last year's annual report not having been completed by the Manager of the late Company.

(2) Settlement of the legal status of the divisional officer, as regards the leased forests of Tihri Garhwál, Raiengarh and Dádi.

(3) Market for other trees than deodar and chír in the forests remote from Chakrata.

(4) Construction of suitable headquarters buildings at Chakráta.

CHAPTER I.

Area and Boundaries.

Area.

8. The area of the demarcated reserved and leased forests stood thus at the commencement and close of the year :—

	Acres.	Square miles.
1st April, 1886	513,274	803
31st March, 1887	513,507	804
Decrease ...	117	...

There is a decrease of 117 acres in the Jaunsár Division owing to the abandonment of the Mogád Forest, an isolated tract of grass land near Chakráta, which was declared a village forest under the Forest Act, chapter III, section 27, by Government Order, on the 1st July, 1886, but this is counterbalanced by an increase of 450 acres of Kail forest newly demarcated in the Raiengarh State.

Form 49 has been revised in accordance with Government Orders, and the proper sub-heads are now given to the different classes of forests included in the form.

The areas of forest and Government land in this circle are as follows :—

	Square miles.	*Remarks.*
Government reserved forest ...	725	Rights of neighbouring villagers not yet settled
Leased forests in native states ...	79	under Forest Act.
Total ...	804	Legal position of Forest Department regarding the leased forests still unsettled.
District waste land in Dehra Dún ...	13	
Total ...	817	

Application has been made to Government to have the cultivated plots in the Jaunsár reserved forests demarcated and to appoint a Forest Settlement Officer to determine the extent of the villagers' rights in them.

It is also believed that some more areas of waste land exist in the Malkot Iláka of the Dehra Dún district, in which it is proposed to demarcate an area of chír forest as a reserved forest.

A reference to the recent land settlement report of Dehra Dún has failed to clear up this question, which will be referred to Government during the present year.

The question of adding the two grants in Dehra Dún referred to in last year's report to the reserved forest of the circle is still pending.

Besides the areas given in form 49, the following area in Chakráta Cantonment is under the charge of the Jaunsár Forest Officer :—

	Acres.
Lorli block	325
Suttoli block	188
Forest garden	48
Total ...	561

Proposals have also gone up to the Commander-in-Chief for the whole of the cantonment blocks in Chakráta being placed under the management of the Forest Department.

An undefined area of forest known as the Sheopuri forest, situated in the valley of the Ganges river above Rishikesh, of which the area is estimated at 150 square miles, was included in the tract leased to the Dehra Dún Division by the Tihri Rája, for an annual rent of Rs. 3,000 under the new lease.

Proposals for demarcating and working the best tracts in this area were submitted to Government, but it has been decided, on the application of the late Rája, to cancel the agreement as regards the Sheopuri forest, and its cession to the State from the 1st July next is ordered.

The area of this forest tract has never been shown in form 49.

Boundaries.

9. The total expenditure on demarcation has been as follows, as compared with the average of the last four years :—

	Rs.	Average of four years.
		Rs
Construction, repairs and numbering boundary pillars ...	390	1,119
Clearing boundary lines	125	1,466
Miscellaneous	34	111
Total ...	549	2,696

The great reduction of expenditure is due partly to much work done in the Dehra Dún Division not having been paid for until after the close of the year.

The following length of boundary line has been certified as in good order :—

Division.	*Miles in good order.*	*Total miles of artificial boundary.*
Dehra Dún	130	165
Saháranpur	124	124
Jaunsár	Uncertain.	

As stated last year, the Jaunsár divisional boundaries are mostly mountain ridges and do not require clearing. The Divisional Officer has been requested to state what length of boundary really requires to be cleared.

No detailed account is given in any but the Saháranpur report regarding the results of carrying out the orders of last year, about the maintenance of the forest boundaries. A list of all the boundary pillars in the Saháranpur Division is given in the annexed form, and similar lists for all the divisions will be given next year.

List showing the boundary pillars in the Saháranpur Division.

Range.	*No. of pillars—* In good condition.	Requiring repairs.	To be rebuilt.	Total.
Western	155	5	5	165
Central	203	73	3	279
Eastern	2	24	3	29
Total	360	102	11	473

The following explanation of the expenditure is given by the divisional officers :—

Dehra Dún.	*Rs.*
Twenty new masonry pillars erected in Kánsrao and Thano forests ...	56
Fixing numbers in pillars in Sainkot forest	27
Four new boulder pillars in Malkot forest	18
Repairs to 275 boulder pillars	37
Clearing 18 miles of boundary line	72
Miscellaneous	36
Total ...	246

The new Dehra Dún masonry pillars cost Rs. 3-8-0 to Rs. 3-12-0 each, and are substantial and suitable, but broken pillars when replaced should be dismantled.

In the Saháranpur Division constant disputes regarding the accuracy of the Government boundary arise with some of the neigh bouring zamíndárs, and it has therefore been ordered that wherever the boundary runs along cultivated land a trench 1½ feet deep and 1½ feet wide should be dug from pillar to pillar: 57 chains of such a trench were dug round the Budhaban block at a cost of about Rs. 60 per mile. The total expenditure in the division is shown as follows:—

	Rs.
Erecting six new masonry boundary pillars	13
Digging 57 chains of ditch	43
Clearing 3½ miles of boundary line	11
Total ...	67

In the Jaunsár Division.—Sixty new pillars in the Noránu, Naintwár, Bámsu and Kálsi forests were constructed, and 91 old pillars were repaired—

	Rs.
At a cost of	166
Six miles of boundary lines were cleared for	70
Total ...	236

Deodar frames are being placed round the tops of the dry masonry pillars, and the wooden block on which the number of the pillar is carved is thus secured. These blocks used constantly to be loosened by shepherds. Where lime is available, pucka tops are given to the pillars for the same reason.

Disputed boundaries.

10. The Kála Tira disputed boundary in the Saháranpur district has not yet been settled, and the divisional officer has been requested to explain reasons for the delay.

Messrs. William and Lewis Powell have refused to allow the Government boundary along their fields in the Western Range, Saharánpur, to be cleared, and will not come forward and state what their claim is, so that the matter will be referred to the Collector for settlement.

In the Jaunsár Division, the Deputy Commissioner of Simla, last November, accompanied by Mr. Hobart-Hampden, enquired into the disputes between Taroch and Dádi and Taroch and Jaunsár, but no official report on the subject has been received, nor was the North-Western Provinces Government properly represented at the enquiry.

CHAPTER II.

Surveys, Working Plans, &c.

Surveys.

11. No survey work has been done in the circle during the year, except the levelling of the raus below the Siwáliks to determine the effects of fire-conservancy.

The circle surveyor and draftsman was deputed to the Forest Survey Branch for one year, to get thorough instruction and practice in forest surveying.

The Superintendent of Forest Surveys estimated the cost of the survey of the newly demarcated Tihri leased forests at Rs. 6,000, but the survey was not allowed by the Government of India. They are the only forests in the circle at present unsurveyed, and this besides other inconveniences makes the results of fire-conservancy uncertain.

Working Plans

12. The total expenditure on working plans during the year has been Rs 1,196, of which Rs 50 is in Dehra Dún and the rest in Jaunsár. This is not inclusive of the pay and travelling allowance of the officer in charge and of the forest ranger assisting him, amounting respectively to .—

		Rs.
III	... ...	2,440
II.	... ...	711
	Total ...	3 151

The question whether the dead deodar wood estimated in Mr. Fernandez' Dharagád working plan to produce one lakh of sleepers is to be worked out, is pending until it is decided whether a contractor should carry on the work or it should be done departmentally.

The question of the extent to which the cultural operations proposed in this plan should be executed is also pending with the Conservator. A full report on the subject will shortly be submitted, and then the final orders of Government on the plan will be issued.

It has not been possible to make any further progress with the Dehra Dún working plan, the materials for which have been collected by Mr. Fernandez, no provincial officer having been available for the work Mr. Hearle has completed two working plans for the Central Circle from data left him by Mr. Fernandez. His time has otherwise been fully occupied with the working plans of the Tihri leased forests and the fuel forests of Jaunsár.

Mr. Hearle completed the valuation of the Tihri forests by the middle of December, since which time he has been engaged in valuing the fuel forests below Chakráta, recommencing work in the higher hills at the beginning of March

It has been proposed to include some blocks of the Cantonment of Chakráta, in the area covered by the working plan, and the matter has gone up to the Commander-in-Chief for orders

As every tree is used for fuel, the valuation survey of these forests takes note of every tree, its monthly cost is as follows :—

	Rs.
Salary of Deputy Conservator	550
Salary of ranger	60
Salary of temporary survey establishment	73
Salary of working plan khalasis, &c.	366
Travelling allowances	190
Miscellaneous	21
Total ...	1,260

Besides the field work, the compilation of the Tihri forests' working plan was continued, and this plan will probably be ready by the end of September.

On completion of these plans it will be necessary to prepare working plans of the Jaunsár district chir forests, and of the Saháranpur Siwálik forests.

Measurement of growing trees

13. The measurements of trees in the sample plots of the three divisions were made in June for the Dehra Dun Division, and in June and December in Saháranpur, and in May in Jaunsár. The trees are chiefly sal in the plains' divisions, and Karshu oak in Jaunsár, but Moru oak will also be measured in future.

Conifers, having definite annual rings, this system of girth measurement to determine their rate of growth is not required for them.

The resu of the measurements are given in an appendix.

It would suffice in future if measurements were merely taken in December in the plains' divisions, and in May in Jaunsár ; dates being fixed so that the students of the forest school might be present when the measurements are taken, as the results are instructive for them.

The average annual girth increment of sál in the Saháranpur sample plots is as follows :—

Name of plot.	No. of trees.		Average annual increment in inches.	
	I Seedlings.	II Stoolshoots.	I.	II.
Dholkhand	178	42	·44	·83
Lakarkot	287	...	·37	...

Further details are given in an appendix.

It is found that all the growth takes place between June and December, and Mr. Hobart-Hampden reports that on the 17th June nine sál trees were blazed by the divisional officer and felled on the 24th August, and that during this short period a striking amount of woody growth took place along the edges of the blaze.

A specimen from one of these trees showing the blaze has been placed in the forest school museum.

In the Jaunsár Division the annual girth increment of 182 Karshu oaks is 0·57 of an inch.

Counting concentric rings in conifers.

14. The rings on ten deodar trees were counted by forest ranger Sadanand in the Deota forest, showing an average of 150 years for 16½ inches radius, giving 9·1 rings per inch of radius. The measurements are presumably without the bark and correspond to 8½ feet girth, say 8¾ feet with the bark on. The results have been printed in the *Indian Forester*.

Reducing factors.

15. The usual experiment for ascertaining the reducing factor for deodar, and the outturn in metre gauge sleepers was carried out in the Deota forest on 16 deodar trees, and results in an average of 93 metre gauge sleepers per tree. The result of former years is :—

1884-85	90·4
1885-86	72·8

The following table gives the average results of the 16 trees —

Mean girth.	Length of workable bole.	Cubic contents workable.	Total cubic contents.	Outturn in first class sleepers.	Cubic contents of sleepers.	Reducing factor.
		Cubic feet.			*Cubic feet.*	
8′ 1″	67′·2″	266·7	413·5	93	157·2	0·36

The average outturn in sleepers from the deodar trees felled for sleepers in the Deota forest has been as follows, breakages being very common on the rocky ground.

	Outturn in metre gauge sleepers.	*No. of trees.*
1884-85	35·8	... ...
1885-86	34·7	... 940
1886-87	43·2	... 1,089

In the Kánga block, the outturn of 128 green and dry trees was 70·8, whilst the 102 trees sold last year to Hari Dás in Bashábr yielded 135 metre gauge sleepers per tree.

CHAPTER III.

Protection and Improvement.

Establishment.

16. The following statement shows the amount sanctioned for the permanent forest establishment, and actual expenditure on permanent and temporary establishment during the year.

Subordinate staff.

Division.	Permanent.			Temporary.	Remarks.
	Maximum sanctioned by Government of India	Amount sanctioned by Local Government	Actually expended during year.	Actually expended.	
Direction ...	568	...	...	...	* Includes Rs. 3,816 of previous sanction, and Rs 16,704, new sanction
Dehra Dún ...	7,560	5,624	5,558	2,344	
Saháranpur ...	5,676	4,012	2,837	2,765	
Jaunsár ...	6,736	6,446	5,301	2,837	
Total ...	20,540*	16,084	13,696	7,946	
Previous year...	11,448	11,448	9,141	13,589	

Liberal subordinate establishments for the circle were sanctioned in Home Department (Forests) No. 555F, dated 1st July, 1886, amounting to Rs. 25,056 per annum. The full cost of the establishment of rangers will only be brought into force gradually, as the men deserve promotion, so that this amount will not be reached for several years.

The revised forest guard establishment was brought into effect from 1st August, 1886. The distribution of the establishment of forest rangers and foresters was sanctioned in Government Orders Nos. $\frac{626F}{21-26}$, and $\frac{74F}{21-26}$, dated 22nd December, 1886, and 14th February, 1887, and the four ranger appointments were sanctioned with effect from 1st July, 1886, while the arrangements for filling up the remaining vacancies among the ranger grade by the temporary promotion of foresters were carried out from the 1st January, 1887.

The total increase during the year of the actual cost of the permanent subordinate forest establishment, Rs. 4,755, is more than met by a decrease of Rs. 5,743 in the temporary establishment, or a net decrease of Rs. 82 3 per mensem.

17. The total number of men sanctioned in the different grades of the subordinate establishment is as follows for the Circle :—

Designation.	Dehra Dún, 277 square miles.	Saháranpur, 295 square miles.	Jaunsár, 232 square miles.	Total, 804 square miles.
Range officers	5	3	6	14
Foresters not holding ranges	5	3	2	10
Forest guards	53	58	40	151

At present only four rangers have been appointed, the remaining posts being held by foresters on probation.

The foresters not holding ranges are in charge of important revenue chaukis, or of special works under the rangers, so that the forest guards are directly under the range officer's orders.

It will be seen that the average charge of a range officer is 57·4 square miles and of a forest guards' beat 5·5 square miles (excluding six men on the Ganges and

Jumna river works); and that the average cost of the whole maximum sanctioned subordinate establishment is Rs. 2 6 per square mile of forest.

18. *Rangers.*—There are now four rangers in the circle. All of whom know English and thus considerably lighten the work of their divisional officers.

Names.	Salary.
	Rs.
Lála Harswarúp	80
Paudit Sadanand	60
„ Keshvanand	60
„ Rám Narain	50

I hear that the former, who is in charge of the central range of the Dehra Dún Division, has continued to do good and intelligent work, and has been very active in extinguishing the various forest fires which broke out on both sides of the Siwáliks. He also assists in the instruction of the vernacular class at the forest school.

Mr. Moir also speaks highly of the work done by Forest Ranger Sadanand, who has been during the year in charge of the Deota range of the Jaunsár Division, with its heavy sleeper works. Which used to be managed by a gazetted officer. He showed considerable smartness in arresting three Jaunsár villagers for sleeper theft and obtained a conviction, the first during the last three years for this very common offence.

Forest ranger Keshvanand, who obtained honors last year at the forest school, joined the Jaunsár Division in May, and proceeded to Delhi to make over the sleepers sold to the railway authorities. He then held charge of the Deoban range till November, since when he has been working under Mr. Hearle in the working plan of the Deoban fuel forests. The latter has expressed himself as much pleased with the work done by the ranger, who describes the compartments of the forest, and is preparing a stock map showing the distribution of the more important species.

Forest ranger Rám Narain was promoted to a rangership during the year, and is now in charge of the eastern and Ganges river range in the Dehra Dún Division. He has not worked altogether satisfactorily.

At present the other rangers in the circle are in charge of foresters, some of whom are on probation for promotion to the ranger grade, and of these Harswarup II, in charge of the Malhán range, Dehra Dún, has been promoted as first grade temporary forester, and has shown himself hard-working and active.

19. The following is the list of men in the circle who attended the forest school course in 1886-87 :—

Name.	Rank.	Pay.	Remarks.
1st year's ranger's course.		Rs.	
Madho Pershád ...	Temporary forester, 5th grade,	20	At forest school
Kasaim Hosain ...	Ditto ditto ...	20	Resigned his post during the year.
Vernacular course.			
Wajjid Ali ...	Ditto ditto ...	20	Ditto.
Alamdár Hosain ...	Permanent ditto ditto ...	20	Obtained forester's certificate from 2nd March, 1887.
Ráma Datt ...	Temporary ditto, 1st grade ...	40	Ditto, 1st January, 1887.
Parbhu Lál .	Permanent ditto, 3rd grade ...	30	Failed will be examined in July, 1887.
Pancham Singh ...	Ditto ditto ...	30	Obtained foresters' certificate from 1st January, 1887.
Makandi Lál ...	Ditto ditto ...	25	Obtained prize for vernacular class.
Kanáya Lál ...	Forest guard, 2nd grade ...	10	Removed from the school in October, 1886
Mádho Rám ...	Permanent forester, 5th grade,	20	At forest school.

The order of Government dated 19th March, 1887, giving forest rangers equal rank with inspectors of police is highly appreciated by the executive staff.

20. *Protective staff.*—The foresters and forest guards, in Dehra Dún Division have, as a rule, worked well and satisfied the divisional officer. The case in which a forester was punished for embezzlement, though included in this year's returns, was reported last year by divisional officer. Matters are also improving in this respect in Saháranpur, but for this division it has not hitherto been possible to supply any English-speaking rangers.

The divisional officer speaks with praise of the work done by foresters Pancha m Singh and Parbhu Lál, but the other range officer, Murad Ali, is somewhat superannuated, and attends too much to details, not getting sufficient work from his forest guards.

Forest guards are gradually improving as better men offer themselves for the vacancies which arise, attracted by the superior pay of the new posts sanctioned by Government.

Five forest guards were dismissed for neglect of duty and one for fraud during the year from the Saháranpur Division. In Jaunsár, two foresters died of fever, and three forest guards were dismissed for neglect of duty, and the Deoban store-keeper fo r fraud.

Two forest guards also resigned their posts. The rest of the establishment worked satisfactorily.

There is a difficulty in getting men who have passed the middle class vernacular examination to enter the Forest Department and in securing a combination of the bodily vigour and love of forest life essential for a good forest guard with the necessary knowledge of vernacular writing and accounts.

21. *Students of the forest school employed in the forests.*—The students of the forest school, under the Deputy Director, have undertaken the following works in the three Divisions of the Circle, and have materially assisted in the work of the year

Dehra Dún—Marking 17,000 trees for sale in the Rámgarh forest.

Copping damaged stems in areas where fellings have been concluded.

Burning fire-lines.

Making charcoal.

Constructing three wooden birdges and a forest road.

Saháranpur Division.—Marking trees for felling in Lakarkot forest.

Improving the line of the Hardwár-Khára road

Plotting plans and sections of raus, to show results of fire-conservancy.

The levelling of these raus was done by Rám Narain, a student of the Jeypur State.

Jaunsár Division.—The students made a deo lar nursery at Deota.

Girdled a number of pines, oaks and firs, which were injuring the growth of deodar.

Planted out deodar in blanks in the forests.

Besides the regular students of the forest school, the following were attached, for preliminary works in the forests, to the Divisions, and with one exception have worked well:—

Division.	Name of student.	Class of student.	Name of state, &c.
Dehra Dún ...	Mr Calderwood ...	Private student.	
	Munshi Kamar-ud-dín ...	Forest apprentice ...	Patiála.
	Achru Rám ...	Ditto ...	Ditto.
Saháranpur ..	Tika Rám	Ditto ...	School Circle.
	Jaghbandan Singh ...	Ditto ...	Rewah State.
	Randaman Singh ...	Ditto ...	Ditto
Jaunsar ...	Tika Ram	Ditto ...	School Circle.

Tika Rám, who was recommended by Colonel Fisher, Assistant Commissioner in Kumaun, has proved unsuitable for forest work, and has been given a temporary appointment in the Direction office.

22.—*Office Establishment.*

The following table shows the amount sanctioned during the year for the permanent office establishment by the Government of India, and the amount actually expended on it, and on the temporary office establishment :—

Division.	*Permanent.*		*Temporary.*	Remarks.
	Maximum sanctioned by Government of India.	Actually expended during year.	Actually expended during year.	
Direction ...	2,856	2,363(*a*)	1,341*	(*a*) Includes Rs 10 acting allowance.
Dehra Dún ...	1,924	1,826	357*	* These include pay of mahauts apprentices under training, dákmen, &c.
Saháranpur ...	1,324	1,315	310*	
Jaunsár ...	1,906	1,805	425 (*b*)	(*b*) Includes charges for pay of native doctor, chaukidárs, &c.
Present year includes Rs 476 per mensem for four, and Rs. 701 for eight months.	7,512	7,309	2,433	
Past year ...	6,432	5,547	1,941	

It will be seen that the cost of the office establishment has been increased by Rs. 1,080 per annum. The increase has been chiefly in the Direction office, and in providing second clerks for the Dehra Dún and Jaunsár offices, where the work has become much heavier than in former years.

The head clerk of the Direction office, Babu Kashishwar Mukarji, has supervised the work well and intelligently.

The Dehra Dún and Saháranpur office establishments have worked satisfactorily during the year, but the Jaunsár divisional head clerk proved unable to cope with the increasing work in the office, which was greatly in arrears at the end of the year.

In the same division the vernacular accountant's conduct was not above suspicion in a transaction regarding some fuel contractors' bills, but no loss accrued to Government, and his long and hitherto excellent service was considered in awarding punishment for the offence.

The Jaunsár office did not come down to the Dún this year, but was obliged to move up and down between Chakráta and Deoban, as the new office sanctioned at Chakráta has not yet been provided, owing to the delay of the military authorities in sanctioning a site. The Jaunsár office was inspected by the Conservator in the beginning of the year, while the Dehra Dún and Saháranpur offices were inspected in February, 1887.

23. *Uniform and badges.*—The new axes and badges supplied to the forest guards have proved effective, but revised orders of Government regarding uniform for the province are expected, as the former uniform was of inferior material and the green of the *pagris* very soon turns blue.

General protection and forest law.

24. The result of prosecutions before Magistrates for breaches of forest rules was as follows, as compared with the last four years :—

Year.	*Convictions.*		*Acquittals.*		Pending.
	Cases.	Persons.	Cases.	Persons.	
1882-83	12	19	4	21	...
1883-84	7	19	8	20	...
1884-85	26	56	11	30	...
1885-86	12	26	2	10	...
1886-87	8	18	4	19	1

The cases included the following —	
Injury to forest by fire	2
Unauthorized felling, &c.	7
Other offences	4
Total	13

The acquittals were two in the Sahâranpur Division, and two in Jaunsâr; in the former division a conviction was obtained before the Magistrate, but this was quashed on appeal.

In one of the acquittals in the Jaunsâr Division, 13 men were charged with firing the Châtra chîr forest, which there was no moral doubt they had done, but there was no direct evidence against them.

One case of illicit felling was pending at the close of the year in the Sahâranpur Division.

Under the head of other offences we have:—

Assault on ranger	1
Embezzlement by forester	1
Attempted fraud by forest guard	1
Shooting in the closed forest by a Gurkha soldier	1
Total	4

Orders have been issued for greater care, in the Jaunsâr and Sahâranpur Divisions, in instituting prosecutions before Magistrates.

The only cases calling for comment are:—That of a forester in the Dún Division convicted of embezzlement of Government revenue, and sentenced to two years' rigorous imprisonment, from which he escaped after eight months, on the occasion of Her Majesty's Jubilee.

Two convictions were also obtained in cases of sleeper-stealing along the Jumna river, the accused being sentenced to three months' imprisonment.

It is hoped that this will have a wholesome effect on the villagers who have carried on this system of fraud for a long time with impunity, owing partly to the difficulty of securing convictions.

In one of the sleeper cases a bribe of Rs. 300 by the villager was offered to two forest guards, who stated that they refused to take more than Rs. 100 which they brought to the divisional officer. On conviction, Rs. 40 of this amount was awarded by the Magistrate to the forest guards for their honesty, and for assisting in bringing the offence to light.

This shows to what temptations our forest guards are exposed.

25. *Cases compounded under section 67 of the Forest Act*.—The following shows the result of cases compounded under section 67 of Forest Act:—

Year.	*Cases compounded.*			*Cases dismissed.*		Remarks.
	Cases.	Persons.	Amount of compensation in rupees	Cases.	Persons.	
1883-84	68	123	559	10	75	
1884-85	93	157	1,300	14	42	
1885-86	109	159	950	13	25	
1886-87	129	284	737	8	31	

The cases were classified as follows.—

Injury by fire	10
Unauthorized felling	70
Illicit grazing	17
Other offences	40
Total	137

The 129 cases compounded were distributed as follows :—

	No. of cases.	Compensation received.	Paid as reward.
Dehra Dún	32	120	14
Saháranpur	60	322	26
Jaunsár	37	245	*Nil.*
Total ...	129	737	40

The cases in the Dún Division are classified as follows :—

Injury by fire	3
Unauthorized felling, &c.	21
Illicit grazing	1
Illicit fishing and shooting	
Evading Ganges river rules	1
Neglecting to give aid in extinguishing a forest fire	1
Total ...	32

In the Saháranpur Division the cases were chefly of a petty nature, thefts of wood and illicit grazing

In the Jaunsár Division the most serious case was for burning the Dumpti block of the Kotigád range, when a grassy area planted with several thousand deodar and kail plants was burned and most of the plants destroyed.

The Assistant Conservator of Forests could not deal with forest offences in Bashahr for want of powers, which have been conferred on Mr. Moir, the present divisional officer, by the Panjáb Government.

The question of powers to take compensation for forest offences in Tihri Garhwál and the leased forests of Raiengarh and Dádi, will be referred to the Government for orders.

The system ordered by the Government of these provinces has been referred by the Government of India to all Local Governments for remarks, and there can be no question that it is extremely useful to allow power to forest officers to dispose of petty cases without reference to the criminal courts, though the wording of the Forest Act, as regards the legality of taking more than the actual value of stolen produce in compensation and of taking compensation for an attempted offence, will probably require amending.

26. *Relation between the people in the villages on the borders of the forests and the forest officials.*—Almost all villagers who have privileges in the Government forests, are now aware that under the Forest Act they must aid in extinguishing forest fires.

In Jaunsár, it is laid down in the agreement with the villagers regarding privileges in the second class forests, that in case a fire breaks out in such a forest, the villagers of the khat will be held responsible for the fire, unless they can prove that it was occasioned independently of themselves.

The Bashahris give considerable trouble, due to the remoteness of the forests, and the impossibility of controlling them efficiently with two forest guards Government has finally decided to resign the Bashahir forests to the Panjáb.

In the Saháranpur district an enquiry is being made regarding certain villages inspected of firing the forests.

In all the divisions many neighbouring villagers are employed by the department in forest works of every kind, and can frequently earn more from the department than is sufficient to pay their land revenue.

If we could introduce a custom of cutting grass in October and stacking the hay to supply the cattle during the six weeks or two months of dry weather in April and May, danger from fire to our forests would be greatly decreased, whilst the cattle would no longer suffer from scarcity of fodder in those months, and being fed near the villages after the harvest, the valuable manure would fall on the fields, and not be wasted in the forests.

27. *Shikaris and wild animals.*—Proposals to draw up rules for granting licenses, on payment, to shoot game in the Government forests in Dehra Dún and the Siwáliks, have been submitted to Government during the year, but no orders have yet been passed on this proposal.

This subject has been discussed at length by Mr. Baker, C.S., in his land settlement report of Dehra Dún, and he strongly advocates that forest revenue should be obtained from the game in the Dún forests.

This is done in every European country, and the present system by which every one who has a gun is allowed to kill game without any payment to Government, appears to be unreasonable.

If game rules were provided, agriculturists who are supplied with guns to frighten deer, &c., might receive only guns with short barrels, which would answer well enough for the purpose.

A Muhammadan cooly working on a forest road near Nágal village was shot by two men, supposed to be Goorkha soldiers, who put two Snider bullets into him, mistaking him for a pig. They then left him lying in the forest till midnight when he was picked up by his friends and taken next morning to the dispensary. One bullet was extracted and one remained in his spine, so that he has lost the use of his legs.

In consequence of this accident the Officer Commanding the 1st Battalion, 2nd Goorkhas, issued orders restricting the use of firearms by his men.

Several letters have appeared in the *Asian*, blaming the Forest Department for allowing wholesale poaching in the Governments forests during the rains, chiefly by Goorkha soldiers and pensioners; but the writers will not give their names, or any clear statement of facts, although the divisional officer specially invited this in a letter to the paper.

As regards fishing, a local association has been formed for the protection of fish in the zamíndári and Government streams in the Dún.

Elephants have been numerous in the Saháranpur Siwáliks, being probably driven across the Ganges by the Khedda operations in the forests of the Central Circle.

Forest Fires.

The annual statements are given, as in last year's report, separately for forests in British territory including the leased forests in the Jághirs of Raiengarh and Dádi, and for the leased forests in Native States, as the areas of the latter are only estimated, including 96,000, acres for the Sheopuri forests.

FIRE STATEMENT (BRITISH TERRITORY).

Division.		Area attempted to be protected.	Percentage to entire area.	Failures.	Successfully protected.	Percentage of failures to area attempted.	Total cost from commencement of fire-conservancy to 30th June, 1887	Area of protected forest open to grazing throughout the year.
		Acres.		Acres.	Acres.		Rs.	Acres.
Dehra Dún ...	1882-83 ...	41,027	23	1,248	39,779	3·0	24,351	...
	1883-84 ...	47,770	27	149	47,621	0·3	29,024	...
	1884-85 ...	85,221	48	507	84,714	0·7	34,319	12,101
	1885-86 ...	1,27,860	72·2	140	1,27,720	0·1	38,549	81,877
	1886-87 ...	1,48,210	80·4	12,787	1,35,423	8·63	47,139	102,087
Saháranpur ...	1882-83 ...	38,091	20	285	37,806	0·8	8,870	...
	1883-84 ...	39,155	20	613	38,545	1·6	12,451	...
	1884-85 ...	66,826	35	62	66,674	0·09	15,732	5,632
	1885-86 ...	1,03,006	54	11,977	91,029	11·1	18,917	26,686
	1886-87 ...	1,43,759	75·97	23,876	1,19,883	16·67	21 736	79,909
Jaunsár ...	1882-83 ...	46,907	45	747	45,860	1·6	5,296	Not given separately for British territory.
	1883-84 ...	47,727	46	2,156	45,571	4·5	6,038	
	1884-85 ...	49,022	47	61	48,961	0·12	7,340	
	1885-86 ...	50,166	48	1,434	48,732	2·8	8,303	
	1886-87 ...	53,096	51·13	723	52,373	1·36	9,318	
Total ...	1882-83 ...	1,25,725	26·7	2,280	1,23,445	1·8	38,517	...
	1883-84 ...	1,34,652	28·6	2,917	1,31,735	2·1	47,523	...
	1884-85 ...	2,01,169	42·8	730	2,00,439	·34	57,391	...
	1885-86 ...	2,81,032	59·9	13,551	2,67,481	4·8	65,769	...
	1886-87 ...	3,44,565	73·39	37,386	3 07,179	10·80	78,393	...

FIRE STATEMENT (LEASED FORESTS IN NATIVE STATES).

(*Areas estimated.*)

Division.		Area attempted to be protected.	Percentage to entire area.	Failures.	Successfully protected.	Percentage of failures to area attempted	Total cost from commencement of fire-conservancy to 30th June, 1887	Area of protected forest open to grazing throughout the year.
		Acres.		Acres.	Acres.		Rs	Acre
Dehra Dún	1885-86	2,940	2·72		2,940	...	54	..
	1886-87	2,940	2 33	.	2,940	...	136	..
Jaunsár	1882-83	24,193	95	582	23 711	2·8	2,303	..
	1883-84	23,273	91	29	23 244	1	2,714	...
	1884-85	27,273	93	6	27,267	02	3 218	...
	1885 86	43,603	98·8	50	43,553	·11	3 779	...
	1886-87	44,115	100	310	43,805	·7	4,461	...
Total	1882 83	24,393	95	682	23,711	2 8	2,303	...
	1883-84	23,273	91	29	23,244	·1	2,734	...
	1884 85	27,273	93 8	6	27,267	·02	3,218	...
	1885-86	45 843	33 72	50	45,793	·1	3,831	...
	1886-87	46,055	33 06	310	46,045	·66	4,597	...

Fire statement (for all the forests of the Circle).

Division.		Area attempted to be protected.	Percentage to entire area.	Failures.	Successfully protected.	Percentage of failure to area attempted.	Total from commencement of fire conservancy to 30th June, 1886.	Area of closed forest open to grazing throughout the year.
Dehra Dún	1882-83	41,027	93	1,248	39,779	3 0	24,351	...
	1883-84	47,770	27	149	47 621	0 3	29,024	..
	1884-85	85,321	48	607	84,714	0 7	34,319	12,101
	1885-86	130,100	69	140	129,960	0·1	38,603	81 877
	1886 87	150,450	55 09	12,787	137,663	8·5	42 475	102,097
Saháranpur	1882-83	38,091	20	985	37,806	0·8	8,870	...
	1883-84	39,155	20	612	38,543	1 6	12,461	...
	1884 85	66,826	35	62	66 764	0 09	15 732	5,812
	1885-86	103,006	54	11,977	91,029	11·1	18,917	26,056
	1886-87	143 259	75·92	23,876	119,383	16·67	21,736	79,909
Jaunsár	1882-83	71 000	55	1,429	69,571	2·0	7 599	...
	1883 84	71,000	55	8,185	68,815	3 0	8,772	.
	1884-85	76,295	62	6"	76,228	09	10,558	23,734
	1885 86	93,769	49	1,484	92,285	1·5	12 062	51,638
	1886-87	97,211	65 89	1,083	96,178	1·05	13,779	51,638
Total	1882-83	150,118	30	2,962	147,156	1·9	40,820	...
	1883 84	157,925	32	2,946	154,979	1·8	50 257	...
	1884-85	278,442	46	736	277,706	0·3	60,609	41,067
	1885-86	326 875	53 65	13,601	313 274	4 1	69 602	154,601
	1886 87	390,920	64·12	37,696	353,224	9·64	77,990	233,644

The maps showing the extent and position of the tracts protected or burned accompany the report.

It will be seen that the area we have attempted to protect in British territory has increased from 281,032 acres to 344,565 acres, the increase being as follows in the several divisions:—

						Acres.
Dehra Dún	...	...	..	...	...	20,350
Saharampur	...	...	...	...	...	40,253
Jaunsar	...	...	...	...	...	2,930
					Total ...	63,533

The net increase brings up the area at present protected to 73 89 % of the whole forest area, as compared with 59 9 % last year.

New areas protected

The new areas in which protection has been afforded are as follows —

Division.	Forest or block	Area in acres.	Total for each division, in acres
Dehra Dún	Ambári	4,203	
	Chandpur .. .	2,251	
	Tirwál	13,816	
	Motichur ...	60	
			20,350
Saháranpur	Kaluwála	2,818	
	Sháhjehánpur	9 572	
	Khujnawár .. .	8,892	
	Budhaban	3 771	
	Mohand .. .	4 979	
	Sukh	3,959	
	Chikna	6,451	
	Iira . ..	778	
		40,720	
	Deduct for lesser areas in Rasulpur and Miapur	457	
			40,263
Jaunsár	Lokandi .. .	590	
	Deoban	40	
	Kástil	250	
	Deogarh forests ...	1,600	
	Raiengarh	450	
			2,930

In the leased forests in native states there has been an increase of only 512 acres in the Jaunsár Division, where the whole area of the leased forests now is protected.

As the Sheopuri forests are now to be surrendered to the Tihri State, it is to be feared that nothing more will be done for their protection, as the valuable chir forest of Bashla, which have long been protected by Government, was burned in the year under report by Tihri villagers, the forest guard hitherto employed to guard these forests having been withdrawn on the death of the late Rája

The great extension of protection has been carried out, in the first place, to protect the remaining sál forests from fire, which prevents their development, and secondly, in order to diminish the effects of floods from the southern face of the Siwaliks at the commencement of the monsoon The severity of the monsoon floods and the damage done by them on the Panjáb side of the Jumna river appears to be on the increase, as no protection is afforded to the Hill sides of the Umballa district, and the Saháranpur district also suffers most severely from the annual floods of the Jumna river brought on by the burning of the hillsides in Jaunsar and in the Tihri and other States, as well as the slopes of the Himálayas facing the Western Dun, the protection of which was recommended by His Excellency the Governor-General in the Government of India's review on last year's forest report.

The area of the fire protected forests open to grazing throughout the year was distributed as follows —

		acres.
Dehra Dun	,,	102,097
Saháranpur	,,	79 909
Jaunsár	..	51,638
Total ...	...	233,644

There has been no question about the grazing area being rendered insufficient owing to the extension of fire protection, except in the Saháranpur Siwáliks, where Government has ordered an enquiry to be made into the effects of fire conservancy on grazing by the Collector, the results of which will be of considerable interest.

Cost of protection.

The cost of protection is as follows as compared with previous years :—

Division.		Area successfully protected.	Cost.	Cost per acre, in pies.
		Acres.	Rs.	
Dehra Dún ...	Average of previous seven years	38,880	3,698	19 3
	1885-86	129,960	4,284	6·3
	1886-87	1,37,663	5,672	5·4
Sahárapur...	Average of previous seven years	30,671	2,214	13·8
	1885-86	91,099	3,185	6 7
	1886-87	119,383	2,819	4·53
Jaunsár ...	Average of previous seven years	64,614	1,939	3·7
	1885-86	92,185	1,524	2·1
	1886-87	96,178	1,697	3·39
Total ...	Average of previous seven years	134,117	7,851	10·6
	1885-86	313,274	8,993	5·5
	1886-87	353,224	8,388	4·55

It will be seen that there is a considerable reduction in the cost per acre for the circle and in the plains' divisions, but that the cost of fire conservancy in Jaunsár has slightly increased.

Owing to the extensive nature of the sleeper operations in Jaunsár, so much attention is not paid to economy in some matters as in the other divisions.

The annexed table shows the cost of protection in detail for all the ranges of the circle, and many be considered a very fair criterion of the attention to their duties by range officers, of which fire conservancy is the best general test :—

Division and range.	*Area.*			*Clearing lines.*			*Fire lines.*			*Establishment.*		*Extinguishing conflagration.*		*General remarks.*		
	Attempted to be protected.	Failures.	Actually protected.	Total length.	Total cost.	Cost per running mile.	Total length.	Total cost.	Cost per running mile.	Total cost.	Cost per 1,000 acres actually protected.	Total cost.	Cost per 1,000 acres.	Total cost.	Cost per 1,000 acres actually protected.	Cost per acre, in pies.
	Acres.	Acres	Acres.	M.	Rs.	Rs.	M.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Dehra Dún.																
Jumna range ...	34,463	3,114	31,349	62	125	2·01	60	125	2·08	328	10·4	52	16 7	630	20·09	2·36
Malhán do. ...	26,037	4 369	21,668	76	205	2·7	56	129	2·5	403	18·5	104	23 9	911	42	8·05
Central do. ...	36 205	150	36,055	74	227	3·07	58	210	3 62	299	8 3	3	2·0	739	20 5	3·9
Eastern Siwáliks range.	32 820	5,164	27,656	54	221	4·1	41	143	3 5	365	13 19	73	4·16	800	28·91	5 5
Thánu and Tirsáli range.	18,685	...	18,685	40	137	3·4	67	196	2·93	377	20·17	...	...	710	38	7
Total ...	148,210	12,787	135,423	306	915	3·02	282	873	3 09	1,770	13 07	232	18·14	3,790	27·98	5·37
Saháránpur.																
Western range ...	71,824	23,493	48,331	42	185	4·4	5	25	5	587	12·1	351	14·94	1,148	23·7	4.55
Central do. ...	55,586	199	55,385	36	167	4,6	76	93	1·2	868	15·6	13	65 3	1,141	20·6	3 95
Eastern do. ...	15,851	184	15,667	20	100	5,	9	41	4 5	325	20·7	64	345·9	530	33·8	6·49
Total ...	1,43 255	23,876	1,19,383	98	452	4·6	90	159	1 7	1,780	14 9	428	17·9	2,819	23·6	4 55
Jaunsar.																
Deoban range ...	24,926	162	24,764	13	44	3·4	108	208	1·9	18	·72	42	259·8	307	12·4	2·38
Báwár do. ...	12,139	297	11,842	4	20	5·	47	146	3·1	28	2·36	26	87·5	220	18 57	3 56
Deota do. ...	27,491	64	27 427	14	122	8·7	77	512	6·6	45	1·71	...	...	639	22·93	4 40
Kotigad do. ...	19,851	160	19,691	2	10	5·	44	173	3 9	32	1·62	14	87·50	229	11·53	2·16
Deogarh do. ...	11,314	200	11,114	5	75	15·	37	155	4 2	...	...	...	...	230	20·55	3·95
Bashahr do. ...	1,430	150	1,280	2	5	2 5	7	27	3·8	...	...	...	...	32	25·00	4·80
Total ...	97,211	1,033	96,178	40	276	6·9	320	1,221	3 8	118	1·22	82	79·38	1,097	17·64	3·39
GRAND TOTAL ...	*3,88,680	37,696	*3,50,984	444	1,643	3·70	692	2,253	32·5	3,668	10·45	742	19·68	6,906	23·64	4·55

Not including 3,240 acres of Tihri leased forests in the Dehra Dún Division.

It would not be, of course, fair to compare the results of fire-conservancy in the hill forests with those in the plains ; fires, except in the case of chír forest, being extremely rare and burning very slowly in protected forests in the hills, owing to the moister climate and to the fact that the forests are under snow from December to March, and to the earlier arrival of the summer rains than in the Dún or Saháranpur districts, and also to the undergrowth and the mild character of the people.

There is, however, danger from fire in the hills from October to December, before the snows fall, though fires during this period in the closed forests are rare.

Under these circumstances the cost of fire conservancy in the Jaunsár Division will be first considered, and it may be remarked that the high cost of the work in the Deota range is due to the large price paid for cutting and firing lines compared with that in the other ranges.

The absence of fires in this range is creditable to the range officer.

The cost of cutting lines is also too high in the Deogarh range. The high cost of conservancy in the Basháhr range is due to the small and scattered areas of the deodár forests protected in that state.

As regards the success of the measures for fire conservancy in the Jaunsár Division, though the areas burned are not extensive, being only 1,033 acres out of 97,211 attempted, yet some of them were due to carelessness on the part of the range officers, and to the absence of two of the latter from their ranges at a dangerous season, when the work was entrusted to inefficient men.

It has been ordered that in future, as a rule, no range officer should be allowed to leave his range during the season when fires are to be feared, unless a thoroughly competent substitute can be provided.

In the Dehra Dún Division, the cost in the Jumna and Central ranges was least of all, and this is especially creditable in the latter case to forest ranger Har Swarúp, in whose range important timber works are in progress in several blocks. The success in this range has also been almost complete, and the ranger was not responsible for the small fire which occurred owing to the forest school having attempted to burn a fire line too late in the season. The success in the Thano and Tirsál range has been complete, though the cost is high, chiefly owing to that of the fire guards ; but this is probably unavoidable, as the forests are every where surrounded by private forests or cultivated lands. The high cost of the fire guards in the Malhán range will be reduced, if possible, next year.

In the Eastern Siwálik range, ranger Rám Narain was not sufficiently energetic on extinguishing fires, or careful in reporting their results.

The low cost of fire-conservancy in the Central range of the Saháranpur Division and the small area burned, is very creditable to the range officer, forester Parbhu Lal.

In the eastern range of this division the high cost is due to the difficulty of protecting the closed block in the Pathri forest, which, though only 672 acres in extent, cost, as much to protect as all the rest of the protected area in the range, the cost of which without Pathri would have been only 3·3 pies per acre.

The worst results in the circle are shown for the western range, where fires extended over nearly one-third of the area in which protection was attempted.

Failures.

The failures have covered a considerable area this year :—

37,696 acres as against
13,601 acres in 1885-86, and
2,659 acres on the average of the previous five years.

The average percentages of failure to whole area attempted are as follows :—

Average of five previous years	1·67
1885-86	4·1
1886-87	9·54

A table showing the area and position of each fire reported and its probable cause is given in an appendix.

As regards general causes of failures :—

In the first place the season has been unfavorable, the snows did not fall till the end of December, and thus there was a longer season of danger in the hill forests, and the monsoon did not break in the plains till after the 1st of July, whilst the months of May and June were unusually hot and dry.

Fire-conservancy has also been extended over the greater part of the Dún and Saháranpur forests, of which 60,003 acres were protected for the first time, and systematic attempts at incendiarism in the Western Siwálik forests caused frequent and serious fires, some of which found their way into the Dún forests across the ridge of the Siwáliks and burned a considerable area on that side as well.

It is a difficult matter to change the customs of centuries, but it is hoped by a judicious system of treatment of the villagers, and by the exclusion of other graziers during the dangerous season, to ensure the same immunity from incendiarism on the Saháranpur side of the Siwaliks as already prevails in the Dún and in Jaunsár, where fires have mostly either originated from carelessness on the part of the protective establishment, or have crossed over from the Saháranpur side of the Siwáliks.

Grazing and Fencing.

28. *Grazing.*—The area of forest open to grazing throughout the year in the circle is as follows :—

Division.	Protected from fire.	Unprotected.	Total.
Dehra Dún	102,027	29,000	131,027
Saháranpur	79,909	45,246	125,155
Jaunsár	51,658	53,802	105,500
Total ...	233,644	128,108	361,752

The following statement shows the number of beasts grazing in the Government forests and the rates charged for each class, as well as the revenue realized :—

Kind of animal.	*Number of beasts grazing.*							Full rates for each class.	Amount of revenue.	Remarks.
	Free.	At half rates.	At full rates.	At rate per month.	At rate per journey.	At rate per day.	Total			
Elephants,	...	...	...	...	...	21	21	Rs. 30 per annum, or eight annas per day.	11	
Camels ...	...	...	8	...	10,586	2,956	13,550	Rs. 2 per annum four annas per journey.	2,843	
Buffaloes,	257	1,165	8,160	...	53	...	9,635	Anna 1 per day, eight annas per annum, eight pie per journey.	4,745	In Jaunsár Re. 1 per annum charged on Gujars.
Cows and bullocks,	11,809	9,464	52,337	276	321	...	74,207	Four annas per annum or four pie per journey.	14,417	Commissariat bullocks charge at 4 annas per mensem.
Dik horses, &c.	...	...	...	1,656	...	...	1,656	Eight annas per month.	828	
Ponies and mules.	...	16	5,244	...	105	...	5,365	Four annas per annum, or four pie per journey.	655	
Sheep and goats.	19,834	448	10,651	...	3,454	...	40,387	One anna per annum or 3 pie per journey.	1,005	
Total ...	31,900	11,093	82,398	1,932	14,519	2,979	1,44,821	...	24,504	...

Although all the sál forests in the Dehra Dún Division are now protected from fire, no complaints of insufficient grazing have came to the Conservator's notice, except in the Chandrabani forest, which has been protected from fire since 1881, and in which grazing has been hitherto permitted, but is now forbidden in the areas recently felled over. This shows that fire-protection is not very antagonistic to grazing in the Dún forests, as no complaints arose until this grazing was restricted.

There have been extensive fires in the closed forests of the Saháranpur Siwáliks, but the connection between these fires and the grazing villages has not yet been proved.

In Jaunsár the admission of Gujars' buffaloes, which passed through the district *en route* to the Native States beyond, and the grain traffic on bullocks along the Chakráta-Tons road, have introduced cattle-disease, which has proved very fatal and is said to have attacked the sheep and goats as well as the cattle.

Several cattle-owners have lost all their beasts, and the people along the road asked the Conservator to stop the bullocks carrying the grain, in order that they might plough their fields without danger of infection. The matter was therefore brought to the notice of the Superintendent, Dehra Dún. Stringent measures in the case of travelling herds of cattle appear to be called for, to prevent future attacks of disease, and the question appears to be one deserving of the attention of the Agricultural Department. I have heard it stated that in Kumaun the disease has become chronic and that it also attacks human beings, from the cattle being kept in their houses. In this case it is said to be always fatal.

As stated in last year's report, Government Order No. $\frac{297F}{26}$, dated 7th June, 1886, gave power to the Jaunsár divisional officer and the Chakráta Cantonment Magistrate to prevent the passage of more than 2,471 buffaloes to the hills at this yearly immigration in March and April.

The number selected are for the cantonment and for the requirements of the forest departmental sawyers and establishment.

Mr. Moir was again in March, 1887, brought face to face with the difficulty of what to do with the large herds which assembled at Kálsi, and admitted 3,185 buffaloes and ten cows and bullocks to the hills, which were distributed as follows:—

Chakráta cantonment	115
Government forests	570
Native states	2,510

By G. O. No. $\frac{297F}{32-26}$, dated 7th June, 1886, the rate for buffaloes grazing in Jaunsár is fixed at Rs. 1-8-0 instead of Re. 1.

The new system of grazing dues in the plains divisions has this year been brought into action for the first time, the cattle being first counted by the patwáris, and their lists checked by the range officers.

The amount estimated for the villages in the Saháranpur district, who elect to graze in the Government forests, will now be fixed for three years, *i. e.*, until April, 1889.

The amount fixed is Rs. 9,012. Had the patwáris' figures been accepted unchecked by the range officers, a loss of Rs. 3,000 per annum, or Rs. 9,000 altogether, would have accrued to Government. Of the villagers' grazing dues, Rs. 6,253 is still outstanding in the Saháranpur tahsíl accounts.

Natural reproduction.

29. The seeding of sál forests on both sides of the Siwáliks, and in the sub-Himalayan sál forests of the Dún was phenomenal in 1886, the trees being laden with seeds which germinated and produced seedlings, covering the ground in most places.

Many of these are killed by frosts, insects and drought, but the results of such a seeding must be most beneficial.

Mr. Smythies writes as follows regarding the effects of fire-conservancy on the advance growth in sál.

"The growth of pre-existing plants in fire-protected areas is noteworthy, the average annual growth of the sál reproduction in the forests of the Western Dún is from 3 to 4 feet in height; thus in these western forests we have in two years got a sál thicket 6 to 8 feet high in the more favourable localities."

In the Saháranpur forests, the Rasulpur block was unfortunately burned in April, 1886, whilst the sál was in blossom, and there are very few seedlings; whilst the Mohand block, in which dead leaves and short grass were burned in June, is carpeted with seedlings; and if protected successfully from fire for the next few years, the improvement will be a permanant one.

Numerous chír seedlings are now springing up in the grass below the chír forest in the Mohand block, newly protected from fire.

Regarding Jaunsár, there is little now to add to remarks made in previous years, the natural reproduction of deodar, kail and chír in fire-protected forests being most abundant and vigorous; and the valuation of the Deoban fuel forests has shown that this is especially remarkable as regards kail.

Several letters have lately appeared in the *Pioneer* advocating burning of pine forests annually, on account of the danger of the accumulating needles producing very destructive fires, but experience in our forests shows that kail reproduction is impossible without fire-protection; although chír manages to reproduce itself when the forests are partially burned every year, as if seedlings escape burning for two or three years, they are not generally destroyed by a light forest fire. The reproduction of karshu oaks, when sufficient light is admitted, is also fairly good, and moru seedlings spring up everywhere under the parent trees.

The seedlings of the larger ringal, which blossomed in 1883-84, are abundant everywhere and average about 1 foot in height, the shoots increasing annually in size as the rhizome gets stronger.

Frost was extremely severe this year, the thermometer reading going down to 26° Fah. in the forest school compound at Dehra, and large areas of fine sál advance growth in the Rámgarh and other forests in Dehra Dún were badly frozen, the damage done being similar to that by a severe forest fire.

Artificial reproduction.

30. *Regular plantations.*—The following figures show the results of the regular plantations during the year:—

Division.	Area on 1st April.	Added.	Excluded.	Area on 31st March, 1887.	Expenditure during year.	Average expenditure of last four years.
Saháranpur Pathri forest, chiefly sissu.	80½	...	...	80½	83	1,056

In former years a number of areas planted or sown to assist natural reproduction, were included in the term regular plantation, but as these areas are disseminated in the forests, and will eventually become merged in the natural reproduction which surrounds them, and will never produce any direct revenue, it is evident that they should all be included in cultural operations, which has now been done.

The only regular plantations are those in the Pathri forests of the Saháranpur Division. They are chiefly sissu plantations, started in 1874, by Mr. Angus Campbell, the late Superintendent of the Roorkee Canal Foundry.

As a small area of the Pathri forest, 672 acres, is closed from fire, and it is advisable to plant it up, various attempts to increase Mr. Campbell's area, since the

plantations have come under the Forest Department have been made, but as the frosts and drought are very severe, and no irrigation has been resorted to, the results have been chiefly failures.

The older sissu plants at Pathri are now about 42·5 feet high and 2·4 feet in girth, but the results are poor, and as only fuel can be expected on the poor soil of Pathri, karha, dhák, mulberry, *celtis* and elm will be tried in future, also *Broussonetia papyrifera*.

During the past year, compartment 22 was planted up with jámun, sissu and other species; but though the planting was carefully and successfully done, grass cowls were not put in time on the plants, and they were mostly killed by the frost.

The nursery was sown with karha (*Abbizzia procera*) which stands the water-logged soil and the frosts better than most species, also with *Celtis sp.* *Ulmus integrifolia* and mulberry, but only the first-named succeeded. Attempts were made to combine cereal cultivation with planting, but no one would agree to undertake the work.

31. *Cultural operations.*—The results of the cultural operations are as follow, as regards planting and sowing:—

Division.	Area in acres.				Charge of the year.	Total charges up to 31st March, 1887.	Remarks.
	On 1st April, 1886.	Added during the year.	Excluded during the year.	Area on 31st March, 1887.			
Dehra Dún ...	82½	...	...	82½	1,071	5,797	
Saháranpur ...	43½	1	5	39½	503	4,589	
Jaunsár ...	1,400	45	15	1,430	461	21,852	
Total ...	1,526	46	20	1,552	2,035	32,188	

The areas are as follows, as regards species:—

	Acres.
Sál	77½
Deodar and kail	1,080
Miscellaneous	394½
Total ...	1,552

As stated last year, the only planting and sowing work advisable in the Circle are:—

Tún and bamboo in Dehra Dún, fuel trees in Pathri, and restocking grass blanks in fire-protected areas in Saháranpur, deodar, kail, chir, firs and oaks in Jaunsár, to these may be added experimental planting of *Broussonetia papyrifera* for paper pulp in the plains divisions.

The principal work of the year in Dehra Dún has been the maintenance of experimental sál and other plantations which were chiefly started in connection with the forest school. A large tún and paper mulberry nursery costing Rs. 250 was started at Phandowála, and the bamboo plantation at Pardúni was planted out with 2,482 plants from the nursery, nothing important was done in the Saháranpur Division.

In Jaunsár, most of the work done consisted of resowing and replanting failures. It is only in this division that planting and sowing has got beyond the experimental stage; and recent minute inspection of the planted areas by the forest school has proved that they have been very successful, and that the older plants are beginning to grow vigorously.

The works have not been costly, 1,400 acres of blanks being now fairly stocked, chiefly with deodar, at a cost of Rs. 32,291, or Rs. 15·6 per acre; and as the plants are chiefly at distances 10′ × 5′, or 871 per acre, their average cost has been three

and a-half pies per plant. The extension of 45 acres shown is due to correction of previously existing areas, owing to more careful measurements.

The most noticeable area replanted is the Bodiár forest, which, when taken over by the Department in 1876, was ruined by excessive fellings, and recently half the area consisted of grassy blanks, 375 acres of which have now been planted up successfully, and the larger deodar plants are already 12 and 13 feet high and growing vigorously.

A detailed account of the cultural operations on the circle is given in an appendix.

Chakráta Cantonment.—Two blocks, Lorli and Suitoli, were handed over in 1880 to the Forest Department to be planted up, and this has now nearly been completed, and a new scheme for the management of the forest has been proposed and has gone up to the Commander-in-Chief for sanction.

The present arrangement is that the Forest Department keeps an account of revenue and expenditure for the blocks it manages, and hands over surplus revenue to the Cantonment Magistrate. The station requires more planting up, and a large number of exotics are available from the Forest garden, which could be very usefully used in fixing the steep hillsides, if the cantonment committee would use them.

The following is a statement of the accounts and work done up to the present time, *i.e.*, for six years:—

Revenue received.	*Expenditure.*					*Number of plants planted.*		
	Boundary lines and paths.	Fire-conservancy.	Sowing and planting.	Felling and preparing fuel.	Total.	Deodar.	Other species.	Total.
Rs.	Rs.	Rs.	Rs.	Rs	Rs.	No.	No.	No.
1,539	416	133	1,529	554	2,632	77,714	17,051	94,765

As all the other blocks in cantonments are leased to a grazier, the closed blocks managed by our department are almost the only areas on which grass can be cut for the residents' ponies and cattle.

Lorli.—During the year, 500 seedlings were transplanted in the nursery, and a number of blanks were sown up with moru acorns and deodar seed, cost Rs. 43.

Suitoli.—Four thousand seven hundred and seventy-five deodar, kail and moru seedlings were removed from forest garden and planted out in old pits: cost Rs. 59.

Landour Cantonment Plantation.

32. Major Harvey, Commanding at Landour, reports as follows regarding the plantation in the cantonment. Four thousand deodar and 400 oak plants were planted near the Hospital, and 6 ounces of cypress seeds were sown in a nursery during the rains of 1886.

There are 500 tún and 500 deodar available for planting out this rains, but as no seed was sown in December, 1886, there are no plants ready for the rains of 1889.

Deodar and blue-pine of former years are growing very well, the annual shoots of the former being one foot and of the latter two feet in length. These species thrive on the higher cool slopes, while the broadcast sowings of chir made by the forest guard on exposed stony ground below have been very successful and should be continued.

The young natural growth of oak and rhododendron is affording shelter to the conifers. The expenditure during the year was Rs. 309, leaving a balance of Rs. 427 from the amount granted by the Government.

It is pity that the municipality of Mussoorie will not undertake some plantation on the bare unsightly southerly slopes below the station, Mr. Scott has grown cypress and

deodar most successfully near his hotel, and the former species is very hardy and suitable for the purpose.

33. *Results of coppice treatment.*—The only areas in the School Circle which are treated as coppice are :—

An area in the Tihri Garhwál forests above Rikhikesh for the supply of kukat tors and ballies to the Canal Department.

Here an average taken from 16 clumps of stool shoots gave height, 7·4 feet.

Number of shoots, 7 to 8 feet.

Girth of best shoot, 3 6 inches.

The Tira coppice at the foot of the Saháranpur Eastern Siwáliks, where 75 acres are coppiced annually for the fuel supply of Roorkee.

This coppice chiefly of bandair (*Zizyphus Xylopyra*) has hitherto been worked by purchasers, but they hack the stools, and in future the work will be done departmentally and the wood stacked and sold in situ.

Some attempts are being made to fill up blanks in the coppiced areas by sowing and planting, but drought and frost are very severe.

In Jaunsár, the Korwa block bán oak coppice, for the supply of fuel for Chakráta, is worked at 3 acres per annum.

Some of the straighter poles, about 20 per acre, are left as standards.

Some areas of karshu were coppiced experimentally near Deoban in 1882, with the result that the shoots are twice as long as seedlings of the same age.

Forest Gardens.

34. *Chakráta Forest Garden.*—This garden is used for experimental growth of exotics, to furnish trees, shrubs, and fruit for the cantonment, and for the supply of fruit grafts to the Jaunsáris.

During the year, as the troops have suffered from scurvy for the last two years, owing to a want of fresh vegetables, the military authorities wished to obtain possession of the garden, as the only available area for a vegetable garden in cantonments.

The matter was referred to Government, and His Honor offered to make over the garden to the Military Department, provided a sum of Rs. 1,500 was paid in return for our expenditure of Rs. 4,957 in fencing, laying-out and planting the garden.

As this sum was not forthcoming, an attempt is being made to grow vegetables for the troops in the garden. About three acres of terraced beds have been prepared, manured and sown at a cost of Rs. 738.

The water channel is being enlarged, and a liberal supply of manure arranged for, as in the hard dry soil of the garden irrigation and manure are essential for success.

There are now about 500 fruit trees in the garden of which European apricots, peaches, cherries and greengages are already beginning to bear ; the fruit being sold for Rs. 11. Grafts will be taken from these trees and distributed amongst the Jaunsáris.

For the exotic experiments seeds have been obtained from America, the Cape and Australia, and a number of plants of the following species are ready for distribution.

Pinus massoniana ; Pinus sinensis ; Sequoia gigantea ; Cryptomeria japonica, &c.

Four hundred and twenty trees of various species were planted in the cantonment at a cost of Rs. 28.

The expenditure on the garden, exclusive of the new beds for vegetables, was Rs. 494.

Other cultural operations.

35. The removal of inferior species, which are injuring the principal species of our forests, is quite as important as the planting and sowing to fill up blanks, and a statement of all the works of this kind is therefore given in form No. 52A, and should be given annually, as works not shown in prescribed forms are apt to be neglected by divisional officers.

These works in the School Circle are as follows :—

(1) Climber-cutting.

(2) Ringing kukat trees over advance growth of sál, and cutting back injured sál and saplings.

(3) Ringing kail, &c., over deodar advance growth.

(4) Ringing fire, &c., to encourage deodar reproduction.

Cutting of climbers.

36. It is prescribed that climber-cutting should be effected in the Dún sál forests two years before the fellings take place.

This gives time to the climbers to decay, as otherwise they bind the trees together and one tree felled may bring down others with it, or remain suspended by them. Up to the present year the following areas have been cleared of climbers in the plains divisions :

Divisions.	Area.	Charges.	
		During year.	Up to 31st March, 1887.
Dehra Dún	23,902	152	1,731
Saháranpur	1,600	...	64
Total ...	25,502	152	1 795

During the present year climbers were cut over 1,200 acres in the Chandrabani forest, Dehra Dún, at a cost of Rs. 89 or Rs. 47 per square mile.

In the hill forests the climbers, *viz.*, vines, ivy, &c., do not harm the trees, and it would be a waste of money to cut them, besides uselessly destroying a great beauty of the forests.

37. *Ringing of inferior species.*—The following statement shows the work done in ringing inferior species :—

Division.	Area operated on.			Charges.		Remarks.
	Previous years.	During present year.	Total.	Present year.	Up to 31st March, 1887.	
	Ringing inferior species in sál forest.					
Dehra Dún	2,197	1,143	3,340	Rs. 1,286	Rs. 2,002	
	Ringing kail, &c., above deodar advance growth.					
Jaunsár	1,307	150	1,457	23	226	
	Ringing fire for deodar reproduction.					
Jaunsár	665	20	685	33	62	
Total ...	4,169	1,313	5,482	1,342	2,290	

The results of the ringing kukat and cutting back injured sál in the Ráingarh forests of the Dehra Dún Division are very promising, as shown by the growth of sál coppice shoots which are 10½ feet high and 5 inches in girth in two years ; 465 acres were gone over at a cost of Rs. 715. In one area, which is much exposed to

frost, it is probable that too many kukat trees have been ringed, as the damage done by last winter's frost is considerable.

This work is chiefly done by the forest school students.

A similar operation was carried out over 708 acres of the Chandrabani forest for Rs. 571.

In Jaunsár, in 130 acres in the Lambatách forest, kail trees were ringed over deodar advance growth, and the result of previous operations in this respect are very satisfactory, although, at one time, it was rather overdone, the small deodar, delicate from the shade of the kail, being too suddenly exposed.

A similar operation extending to bán, rai, &c., as well as kail, was effected over 20 acres in the Katián forest.

In the Kánga block of the Deota forest, 424 large rai and morinda trees on 20 acres were ringed, to allow the deodar trees they surrounded to expand their crowns and bear seed, and also to admit light to the soil, for the deodar seed to germinate.

This operation should always be accompanied by clearing the soil of brushwood if it exists below the deodar, and should precede the fellings by several years.

38. *Treatment of bamboos.*—The principal area of bamboo forest is in the Eastern Siwáliks, and there are more bamboos on the Saháranpur side than on the Dún side.

The leased bamboo forests in the Ganges valley in Tihri Garhwál will be abandoned next June.

Regarding them Mr. Smythies writes that the supply is failing, and gives the following interesting details :—

"The cutting of bamboos in the lower part of Tihri Garhwál was stopped, and some measurements taken by me show that this was necessary, as the size of the bamboo shoot has deteriorated.

"New shoots were measured and 21 old shoots (the upper part of the bamboo having been removed) the average girth of the 21 old shoots was 6 52 inches, the average girth of the 21 new shoots 5·29 inches, thus showing that the new bamboos are an inch and a quarter less in girth than those which existed before the cutting took place."

The locality where the observations were made is close to Rishikesh, and it will be easy to verify the correctness of the argument next cold weather, as the new shoots ought to be slightly larger.

Bamboos are also deteriorating from over-cutting in the Bulawála and Motichur forests of Dehra Dún.

The working plan should provide for a rotation in bamboo-cutting similar to that in force in the Saháranpur district.

In the Saháranpur bamboo forests the blocks furthest to the east in which the clumps flowered a few years ago are now comparatively poorly stocked with mature bamboos. The seedlings of the bamboos in the Ránipur and Rauli blocks are now two and one year old respectively, and are chiefly found in the middle of dead bamboo clumps or under thick scrub where they are protected from the grazing of cattle.

Communications, buildings and other works.

39. The following figures give the cost of works in the School Circle compared with that of previous years.

	Roads and bridges.	Buildings.	Other works.	Total.
Average of three previous years.	Rs. 9,638	Rs. 12,398	Rs. 1,344	Rs. 23,380
1885—86	5,710	9,020	875	15,605
1886—87	7,640	10,222	729	18,591

The expenditure on works though considerably below the average has exceeded that of the previous year by Rs. 2,986, of which Rs. 1,930 is for roads and bridges and Rs. 1,202 for buildings.

In the previous year much work was put off on account of general financial pressure, and so the excess expenditure of the present year is warranted by more work being done.

40. *Roads and bridges.*—The following statement shows the work done during the year and the length of road and number of bridges and culverts in the circle :—

Class of work.	Direction.			Dehra Dún.			Saháranpur.			Jaunsár.			Circle.		
	New works.	Old works.	Cost during year.	New works.	Old works.	Cost during year.	New works.	Old works.	Cost during year.	New works.	Old works.	Cost during year.	New works.	Old works.	Cost during year.
			Rs.	M. c.	M.	Rs.	M. c.	M.	Rs.	M. c.	M. c.	Rs.	M. c.	M.	Rs.
Road 20′	...	...	...	...	12	669	...	12	99	...	...	...	...	24	761
,, 15′	...	...	...	10 16	104	2,257	...	30	44	...	...	...	10 16	134	2,301
,, 12′	...	...	...	4 2	35	509	...	1	11	...	...	...	4 2	36	520
,, 10′	...	...	...	...	35	521	...	16	152	...	...	...	...	51	673
Path 6′	...	...	...	...	63	720	9 40	1	148	...	177 0	642	9 40	191	1,510
,, 2′ to 4′	...	...	...	14 4	69	285	...	2	...	7 59	329 0	1,108	21 23	400	1,393
Total ...	...	...	...	28 22	318	4,961	9 40	62	447	7 59	456 0	1,550	45 41	836	6,958
	No.		Rs	No.		Rs.			Rs.		No.	Rs.		No.	Rs.
Main bridges	...	...	...	...	...	...	...	...	...	...	5	135	...	5	135
Minor bridges and culverts	3	...	243	2	...	56	...	...	...	...	...	...	...	5	304
Miscellaneous,	...	...	48	...	...	200	...	...	...	...	...	...	...	...	248
Total test ...	...	...	291	...	...	5,217	...	...	447	...	...	1,685	...	...	7,640

The principal works of the year have been the construction of 45½ miles of roads and pathways at a cost of Rs. 2,004, whilst 836 miles of old roads and pathways have been repaired at a cost of Rs. 4,954.

Regarding the new roads, the principal ones in the Dehra Dún Division are the following :—

	Miles.	Chains.
Thánu-Dehra from Song river to the Hardwár road	4	78
Dudhli-Madhowála	2	63
Roads in Western Dún	6	10
Pathways	14	0

The former road has opened out the Thánu forest, and is now extensively used for carts and ponies in bringing fuel to Dehra.

The repairs of roads, 324 miles 54 chains, in this division cost Rs. 1,185 more than last year, and though some good work has been done, especially on the Ajabpur—Motranwala road, the employment of Anghani coolies at six annas a day without sufficient supervision has enhanced the cost of the work.

There is a tendency in the district to throw the repairs of feeder roads which are necessary for forest export, but are also largely used for other purposes, on our department; and considering that nearly half the area of the district is Government forest, it would be only fair for the forest divisional officer to be on the district committee.

The chief work done in the Saháranpur Division was constructing six-feet bridle paths 9½ miles long in the eastern range, for the export of bamboos, at a cost of Rs 142.

Rs. 305 was spent on repairs of 55 miles 34 chains, chiefly in improving the Hardwár-Khára road. Some of the export roads leading to the villages south of the latter road require lining and repairs, which will be undertaken in 1887-88.

In Jaunsár, 7 miles 59 chains of 2′ and 3′ fuel and inspection paths were constructed at a cost of Rs 428, chiefly in the Kálsi, Raiongarh and Panchkoti forests.

The repairs of the old pathways cost Rs. 1,122, but the length repaired is not stated by divisional officer.

The only main bridges in the Circle are those crossing the Tons and Pábar rivers, where there are three fine suspension bridges and two timber bridges erected by the Forest Department. These are all in good repair, except the Maindrot suspension bridge, which is no longer required now that the Tiuni bridge on the Chakráta-Simla road has been thoroughly repaired by the District Engineer The Maindrot bridge will therefore be pulled down

A large culvert has been built by the Assistant Engineer, Roorkee, at the entrance to the forest school, so as to allow sufficient room for the drainage from the maidan, which formerly every year swept away the roadway. It cost Rs. 248, together with a smaller culvert on the roadway, and one at the gate of the students' quarters.

Two small culverts have been built on roads in the Dehra Dún Division.

Besides the departmental expenditure on roads, the following sums were received by divisional officers from the district funds, and expended on repairs of the roads mentioned .—

Names of Divisions	Amount.	Work done
	Rs	
Dehra Dún	126	Repairs of 4th class district roads.
Saháranpur	430	,, Hardwár-Kháta road.
Jaunsar	300	,, Chakráta Tons road.
Total ...	856	

Good work was done in fencing dangerous places and repairing bridges on the Chakrata-Tons road, and in deviating the Hardwár-Kháta road at steep places, with the object of making it in time passable by carts throughout its length.

41. *Buildings* —The expenditure on buildings may be thus distributed :—

	1884-85.	1885 86	1886-87
	Rs.	Rs	Rs
Repairs to existing buildings	2,897	4 463	3,538
Construction or purchase of office buildings	..	1,000	
Construction or extension of officers' rest houses, ...	2,887	1,198	3,359
Ditto of rangers' or foresters' houses	1,409	...	2 236
Construction or extension of forest guards chaukies and other buildings	1,521	2,359	1,089
Total ..	8,714	9,020	10,222

The expenditure incurred in the different divisions is thus accounted for :—

	Rs.
Direction	
Repairs and alterations of the main buildings and out houses	860.
Dehra Dún.	
Repairs to existing buildings	659
Construction of rest house at Phandowála	2,723
Ditto of foresters and revenue chaukies	516
Ditto of out-houses and stables	196
Total ...	4,096

Sahdranpur.	Rs.
Repairs to existing buildings	611
Construction of out-houses and stables	336
Ditto of foresters and revenue chaukies	85
Total ...	1,032
Jaunsár.	
Repairs to exising buildings	1,408
Additions to the Mundáli rest-house	300
Construction of quarters for students at Deota, Tadiár, Katián and Mundáli ...	2,336
Construction of foresters and revenue chaukies	290
Total ...	4,334

Inclusive of the buildings of the forest school and students' quarters, the following is a list of the buildings in this Circle :—

Description.	*For use of*— Officers.	Subordinates.	Offices, stores, &c	Wells.	Total.	Remarks.
Direction.						
Permanent	...	3	3	...	6	
Semi-permanent	...	1	1	...	2	
Temporary	...	4	...		4	
Total ...	...	8	4	...	12	
Dehra Dún.						
Permanent	7	6	...	2	15	
Semi-permanent	7	25	...	...	32	
Temporary	13	36	2	...	51	
Total ...	27	67	2	2	98	
Sahdranpur.						
Permanent	4	1	...	5	10	
Semi-permanent	...	5	...	...	5	
Temporary	...	17	...	...	17	
Total ...	4	23	...	5	32	
Jaunsár.						
Permanent	12	10	4	...	26	
Semi-permanent	4	18	5	...	27	
Temporary	...	5	6	...	11	
Total ...	16	33	15	...	64	
Grand Total ...	47	131	21	7	206	

The principal works of the year were the commencement of a substantial forest rest-house at Phandowála in the Rámgarh forest ten miles from Dehra. This rest-house is very central and likely to be highly useful to the Circle and School officers.

Rs. 3,302 were sanctioned by Government for its construction, and Rs. 2,723 spent during the year.

In the Jaunsár Division during the annual tour of the forest school, difficulty has been experienced in providing carriage for the students' shouldaries, and owing to the frequent storms of rain and hail in May, it was considered advisable to build wooden shelter huts at the halting places. These will always be useful for the regular forest establishment as well as for travellers and have been well designed and strongly and cheaply built of deodar wood at Katián, Tadiár and Deota and commenced at Mandáli, at a total cost of Rs. 2,236, the total amount estimated for being Rs. 3,000 for the four sets of quarters complete, capable of accommodating 30 students and their servants.

The building of the remaining students' quarters at the forest school, Dehra, and the enlargement of the main building is under the consideration of Government ; plans and estimates having been prepared by the Executive Engineer, Meerut, and referred to the Inspector-General of Forests.

The forest survey office has expanded, and there is not sufficient room for its present requirements in the school building, but i is hoped that, by the addition of a room to the west of the building, sufficient room will be secured.

A piece of land for head-quarters buildings for the Jaunsár Divisional Forest Officer, at Chakráta, has been marked out, and referred to the Commander-in-Chief for sanction.

42. *Other works.* The total expenditure in the Circle on "other works" was Rs. 729, of which Rs. 375 were spent on the forest school compound. in levelling, repairing of gates, bridges and construction of irrigation drains.

In the Saháranpur Division Rs. 8 were spent on the construction of five temporary wells, whilst Rs. 16 were spent in repairing masonry wells.

In the Jaunsár Division Rs. 141 for building materials and Rs. 111 for their carriage, charged to this head, should have been debited to buildings A. VII*b*. Rs. 78 were spent in clearing compounds, repairing drains and gates and in levelling camping grounds.

CHAPTER IV.

Yield and Working.

General account of operations.

43. Detailed information regarding the trees felled and the resulting produce is given in the Forest Code forms, but Appendix A, which gives a statement of all the trees felled in the year, supplies a deficiency, as form 53 only considers those felled by Government agency.

The following table gives the total number of trees felled and their average contents:—

	No. of trees.	Cubic feet.	Average in cubic feet.
1886-87	47,856	6,50,302	13·6
1885-86	51,382	6,77,725	13·2
Average of two previous years ...	25,415	16,03,926	56·4

The reduced size of the trees in the last two years felled is due to the greater number of thinnings in the Dehra Dún and Saháranpur Divisions, and to the greatly reduced number of large trees felled in the hill forests, owing to the cessation of sales of deodar trees to purchasers and the reduced number of trees as compared with last year, and to restricted fellings in Dehra Dún and Jaunsár. In the former division, in 1886-87 sales of standing sál and sain to purchasers were suspended in the Chandrabani forest, as those sold in the previous year were not worked out till this year, and this partially accounts for the fewer number of trees felled.

The fellings by Government, contractors and grantees compare as follows :—

	Government.		*Contractors.*		*Grantees.*	
	Number.	Cubic feet.	Number.	Cubic feet.	Number.	Cubic feet.
Selections.						
1886-87	4,472	2,88,403	2,496	144,980	1,120	76,766
1885-86	4,788	2,24,569	2,936	223,179	1,450	107,040
Thinnings.						
1886-87	30,148	62,445	9,620	77,648	*Nil.*	*Nil.*
1885-86	22,522	48,148	19,686	74,789	*Nil.*	*Nil.*

In this table the reduced number of the thinnings sold to contractors, and the increased number worked out by Government agency, chiefly in the Dún for the Ganges Canal, is noticeable.

The reduction in the number of free grants is only apparent, being due to the Bashâhr villagers being allowed to cut what they like, without permits, in the undemarcated forests in Bashâhr.

There were no clearances during the year.

In comparing the species felled in the two years we have the following:—

Species.	*Selection fellings.*		*Thinnings.*	
	1885-86.	1886-87.	1885-86	1886-87.
Sâl	2,307	2,220	22,980	9,569
Sain	2	17	3,256	209
Tún	57	55	...	...
Sissu	32	171	...	51
Fir and pine	2,853	3,103	...	...
Oak	314	352	85	4,602
Deodar	2,915	1,157	...	...
Boxwood	248	...	...	...
Miscellaneous...	398	423	15,887	25,286
Total ...	9,174	8,088	42,208	39,768

The chief point to note is the falling off in the sâl thinnings and the large increase in the export of kukat wood, this occurring in the Dún Division; also the reduced number of deodár trees felled in the hill forests, the reasons for which have been already explained.

As the cubic contents shown are in many cases mere estimates, it is not worth while discussing them.

Form B gives the yield in produce for the circle, and is as follows, which was valued at Rs. 4,47,109 as compared with Rs. 3,61,290 for the previous year.

Description of produce.	1885-86.		1886-87.		Remarks.
	Quantity.	Value.	Quantity.	Value.	
		Rs.		Rs.	
Timber, cubic feet ...	5,47,164	1,53,404	6,16,515	2,51,485	
Poles, number	52,843	16,749	27,872	17,443	Figures in parenthesis refer to free grants not shown last year, but entered now for comparison. Charcoal this year shown in equivalent firewood.
Saplings ,, ...	23,470	4,712	32,976	6,701	
Bamboos, &c., scores ...	1,80,174	22,455	1,24,627	14,644	
Firewood, cubic fee ...	7,36,289 (19,56,280)	39,519 (77,192)	27,04,547	1,05 280	
Charcoal, cubic feet ...	5,640	768	13,020	780	
Minor produce	...	14,869 (600)	...	17,365	
Grazing dues	...	21,600	...	25,610	
Amount of free grazing and fodder grass, &c.,	...	(7,582)	...	7,821	
Total ...	...	2,76,016 (8 ,274)	...	4,47,109	

The largely increased value of the produce, Rs. 98,081 under timber, is chiefly due to the increased sleeper operations, whilst under firewood the increase is merely apparent, as Rs. 77,192, the value of free firewood granted to villagers, was not shown last year, but is now entered in parenthesis for comparison.

The falling off in bamboos is also explained further on.

Appendix C gives a resumé of all the results of departmental operations during the last two years.

As regards local sales the falling off in value is nominal, as sales of drift timber, now shown as sales from depôt, were included under this head last year.

The value of the balance in hand at commencement of the year was Rs 66,922, and it was increased to Rs. 90,832 by the 31st March last.

The increase is due to the large number of metre gauge sleepers in forest depôts and to the large quantity of fuel in stock at Chakráta.

The receipts in depôts and the sales have increased in value by Rs 65,033 and Rs. 33,414 respectively, these are due to the large sleeper transactions of the year, and to the facts already mentioned to explain the large balance in hand When our working plan for the Dun forests is published we may expect more steadiness in the yield.

Departmental Operations.

44. *Trees felled.*—The number of trees felled, as compared with previous years is as follows :—

Departmental agency.

Years.	Selection fellings		Clearances.		Thinnings		Totals.	
	Number	Cubic feet	Number	Cubic feet	Number.	Cubic feet	Number	Cubic feet.
Average of three preceding years.	1,835	226,585	578	3,000	3,497	29,852	5,960	261,447
1885-86	4,788	224,569	...	...	22,522	48,148	27,310	272,717
1886-87	4,472	2,88 403	...	...	30,148	62,445	34,620	3,50 908

There is a slight falling, off in the selection fellings, chiefly in deodar, as a large number of the sleepers sold to the railway were purchased from a contractor, but the size of the trees felled has increased.

In the thinnings there is a considerable increase owing to the operations in Dehra Dún and Lakarkot forest already described.

The average cubic contents of the trees felled is as follows :—

Divisions.	Selection fellings.		Thinnings.		Average	
	1885-86	1886-87	1885 86.	1886 87.	1885-86.	1886 87
Dehra Dun	5 8	2 97	1·7	2·01	1 87	2 09
Sahéranpur	...	...	2·8	1·26	2 8	1 26
Jaunsár	85·63	109·9	30 0	2 61	83 77	41·09

That for the Circle being 10·13 as compared with 9 98 cubic feet for last year.

As regards species, the selection fellings, as compared with last year's figures, are:—

Species.	1885-86	1886-87.
Sál	2,319	1,869
Sain	2	2
Tún	67	55
Sissu		1
Deodar	1,744	98
Fir and pine	330	786
Oak	333	737
Boxwood	1	...
Miscellaneous	92	334
Total ...	4,788	4,472

whilst the thinnings give

Species.	1885-86.	1886-87.
Sal	6,550	2,104
Sissu	...	51
Oak	85	4,602
Miscellaneous	15,887	23,491
Total ...	22,522	30,148

Trees marked for the works of 1887-88.—Beyond a statement that the students of the forest school marked the trees in compartment 4 of the Lakarkot block for next year's work, and that no deodar trees were marked in the Deota forest, no remarks on this important work, which is generally done by divisional officers in person, occur in any of the divisional reports.

Outturn of timber and other produce removed by departmental agency.—The outturn of timber and produce removed by Government agency in the forests as compared with the previous year is given below :—

Description of produce.	1885-86.		1886-87.	
	Quantity.	Value in rupees.	Quantity.	Value in rupees.
Timber, cubic feet	1,10,153	75,252	2,36,037	2,18,950
Poles and saplings, number	41,443	14,771	28,185	16,412
Bamboos, scores	61	20	36	15
Firewood, cubic feet	2,49,852	23,479	1,81,093	31,687
Charcoal, cubic feet	2,552	400	8,274	695
Fodder grass, loads	...	.	68	6
Total ...	...	1,18,922	...	2,67,255

The large increase in the outturn of timber is chiefly due to the purchase of 52,417 sleepers, at Rs. 1-2-0 each, from Hari Dás, in order to mee the new contract with the railway, which in previous years only took 50,000 sleepers from our department.

The increase in the value of the firewood exported is due to the larger quantity worked out in Jaunsár, whilst the falling off in quantity is due to the diminished yield of the Ganges drift and Lakarkot timber.

46. *Account of timber and other produce removed from the forests.*—The following table shows the transactions of the last two years :—

Receipts.	Timber.		Firewood.		Charcoal.		Bamboos.		Fodder grass.	
	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	Scores.	Scores.	Load.	Load.
Balance in hand at commencement of the year.	55,325	74,383	58,487	60,642	2,744	475	...	...	...	...
Received in depôts ...	134,257	274,964	100,320	143,563	40	1,417	...	...	...	...
Received from department; collection of drift timber.	5,956	8,435	56,422	28,178	...	...	61	36	...	...
Received from forests and sold locally.	...	...	91,671	9,953	2,512	2,720	...	...	...	559½
Received from forests and used by the department.	8,328	5,634	...	...	...	...	...	...	...	...
Disposals.										
Sold from depôts ...	148,626	221,867	95,970	118,962	2,307	386	...	...	...	...
Ditto locally ...	...	...	91,671	9,927	2,512	2,720	...	...	...	517½
Ditto (Ganges drift timber).	5,790	8,224	73,146	33,104	...	...	61	18½	...	...
Otherwise disposed of ...	26,081	23,545	470	1,102	2	67	...	22½	...	...
Total ...	182,497	253,636	261,257	163,015	4,821	3,173	61	36	...	517½
Balance at close of year...	74,383	109,799	60,642	79,321	475	1,439	...	...	...	42
GRAND TOTAL ...	256,879	363,435	321,899	242,336	5,296	4,612	61	36	...	559½

The balance at the close of the year consists of the following items as compared with the previous year :—

Division.	*Timber.*		*Firewood.*		*Charcoal.*		*Fodder grass.*	
	1885-86.	1886-87.	1885-86.	1886-87	1885-86.	1886-87.	1885-86.	1886-87.
	C. ft	C ft	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.
Dehra Dún	151	20,719	12,162	6,984	...	...	...	...
Saháranpur	14,965	2,1>8	..	..	...	...	...	...
Jaunsár	59,256	86,892	49,480	72,337	475	1,439	...	42
Total ...	74,382	1,09,729	60,641	79,321	475	1,439	...	42

The balance consists chiefly of metre gauge sleepers, and of deodar pine and fir scantlings ; also of firewood in the Chakráta commissariat godowns not yet made over, and charcoal in the Chakráta depôt.

47. *Sales to public departments* :—

Year.	*Amount of revenue.*			*Cost to Forest Department.*			Surplus.
	Due.	Received.	Outstanding.	Timber expenses A. I	Quota of other charges.	Total.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Average of last six years, 1879 to 1884 85,	1,16,691	1,15,840	751	72,537	13,079	85,609	30,982
1885-86	1,84,132	1,84,132	...	60,617	11,192	71,809	1,12,323
1886-87	2,15,748	2,15,748	...	1,25,468	8,245	1,33,648	82,100

The following were the principal items :—

	Rs.
Dehra Dún—(1) 4,936 cubic feet timber to Canal Department ...	2,462
(2) 11 508 poles to Canal Department	5,763
(3) 26,112 cubic feet fuel to Canal Foundry, Roorkee	3,133
Saháranpur—(4) 1,091 poles to Canal Department	1,056
Jaunsár—(5) 95,057 metre guage sleepers to Rajputana Railway ...	1,60,404
(6) 1,10,250 stacked cubic feet of fuel to Commissariat Department ...	82,310

The lower price received for sleepers as compared with previous years accounts chiefly for the reduced surplus, but the expenditure includes cost of 72,000 cubic feet of fuel not yet sold and 39,000 metre gauge sleepers in transit, whilst it excludes several outstandings, such as half the price (Rs. 24,000) of sleepers purchased from Hari Das, which was unpaid by order of a Civil Court, and the cost of rafting the 95,000 sleepers to Delhi and canal dues, &c., which charges will not be settled till the present year.

48. The chief departmental operations undertaken during the past year have been as follows :—

DEHRA DÚN DIVISION.

Supply of timber for bunds on the Ganges canal.

Collection of drift timber on the Ganges river.

Improvement fellings in the Nagsidh forest.

SAHARANPUR DIVISION.

Improvement fellings in the Lakarkot block.

JAUNSAR DIVISION.

Preparation and export of 82,951 metre guage sleepers for the Rajputana Railway.

Preparation and export of 1,45,743 stacked cubic feet of fuel for Chakráta.

Preparation of 10,893 scantlings of various sizes for different purposes.

49. *Supply of timber for the Ganges Canal.*—The Executive Engineer, Ganges Canal, Roorkee, indented for the following timber :—

Bullas	1 200
Bullies	4,000
Tors	8,000

and the total amount supplied during the season ending 30 June, 1886, was :—

	No	*Cubic feet.*
Bullas	1,234	4,936
Bullies	3,165	7,130
Tors	7,943	11,914
Total ...		23,980

the total amount received being Rs. 8,245 and the cost of supplying Rs 3,636, showing a balance of Rs. 4,609 in favour of the department, or about 3¾ annas per cubic foot; 406 pieces of rejected timber and 4,229 tarans used for floating it were sold for Rs. 375, which brings up the amount of the profit to Rs. 4,984.

The timber was all cut from the Tihri Garhwál forests in the Ganges valley.

It is to be hoped that now these forests, which for the last 22 years have been leased by the British Government, will be carefully worked by the Raja of Tihri, to whom they have now been surrendered, as from their position they are extremely valuable for the supply of timber for the canal bunds.

The timber required annually for these bunds must be straight and of certain fixed dimensions, and owing to the overworked condition of the Eastern Dún forests and the crooked nature of the timber it is improbable that we can undertake the supply of suitable timber until a sufficient area of forest has been under coppice treatment for from 12 to 15 years.

50. *Collection of drift wood from the Ganges river.*—The drift timber operations on the Ganges and lower Suswa rivers resulted in the collection of the following :—

	Cubic feet.
Sál scantlings	32
Miscellaneous	434
Logs and pieces	6,680
Tors, poles, &c., ...	1,289
Fuel	28,178
Total ...	36,613

besides 713 bamboos.

The best timber was sold by public auction on the banks of the Ganges and the fuel was partly taken to Roorkee and partly stacked and will be sold in 1887-88.

The proceeds of the year were Rs. 6,229 and the expenditure Rs. 3,922.

Profit Rs 2,287, or one anna per cubic foot; and it is better for many reasons to continue collecting the timber departmentally instead of leasing it.

51.—*Improvement felling in the Nágsidh forest.*—A small felling over about 100 acres was made in the Nágsidh forest to supply four tea gardens with fuel for their engines in the Eastern Dun. Only inferior trees were felled, and the produce obtained was :—

	Cubic feet.
Sál timber	1,322
Tors and ballis	776
Korwas	50
Logs	69
Kukat timber	230
Total ...	2,447

besides 24 cart-loads of side pieces, and 1,320 cart-loads of mixed fuel, which at 10 maunds or 20 cubic feet of timber each=26,880 cubic feet of fuel.

A large quantity of fuel is still lying on the coupe and will be exported in 1887-88

The cost of the work was Rs 686, and the revenue received was Rs 2,050, balance Rs 1,364 or 8 annas 9 pies per cubic foot, and more receipts may be expected in 1887-88.

The demand for fuel for the gardens is about 2,000 maunds per annum and the inferior timber in Nágsidh can therefore be gradually removed, to the considerable improvement of the forest growth

A demand for 3,000 cart-loads fuel for the Dehra Dún Tea Company has also been made, and this will be supplied from the Chandrabani forest, the trees being felled departmentally, but the logging, &c, being done by the Tea Company.

52.—*Improvement fellings in the Lakarkot block.*—The crooked and hollow trees, chiefly sál in a portion of compartment 1, and the whole of compartment 2, were felled last year, and the work of conversion was completed before June, 1886, all the timber being carted to the Dholkand depôt.

The yield was 54,702 cubic feet, chiefly of ballas, tors and ballis, and it was all sold during the year as follows.—

	Rs
To Canal Department 544 scores of ballis at Rs 12 and depot sales ...	1,056
Remainder by auction	2,800
Total ...	3,856
Deduct expenditure	1,501
Net profit	2,355

or 8 pies per cubic foot Compartment 3 was worked over before the monsoon of 1886, and felling carried out in October and November, and the resulting timber, 463 cubic feet, was stacked in the compartment lines and sold by auction in February for Rs 258.

the cost being Rs 52.

Profit Rs 206.

Work has also been extended to compartment 4, and the following trees were felled.—

Sal	9 237
Kukas	2,309
Total ...	11,546

on conversion these yielded 4,255 cubic feet of sál timber, which were carted to the depôt, as well as a quantity of fuel which will be sold in 1887-88.

The southern and lowlying parts of the fellings suffered severely from frosts, but the northern parts escaped, being protected by the hills.

53 *Sleeper works on the Tons and Pábar rivers*.—The total number of trees sawn up in the Kánga block of the Deota forest was 599, and 650 trees were felled but not sawn up. In the Raiengarh forest 449 trees were felled and 115 trees marked for next year's fellings In the Dedragad forest 1,120 metre gauge sleepers were prepared from refuse wood left from Katárah Mul's fellings of 1882-83.

The number of sleepers sawn during the year at Deota, Raiengarh and Dedragád forests was 92,873, of which 50,308 were exported and 42,565 left at the different forest depôts.

The sledge road at Deota worked well and without any accidents occurring, and only cost Rs. 29 for repairs, and 37,745 sleepers were sledged at 4 annas per score or Rs. 472, instead of Rs. 2,949, by coolie labour, a saving of Rs. 2,477.

An experimental length of 22½ chains of dry-slide was constructed, with the object of connecting the lower end of the sledge road with the head of the wet slide, the whole distance being about 45 chains.

This section is extremely rocky and precipitous, and the line was first laid out winding from side to side, in order to diminish the speed, but the slide was then broken by the sleepers, and it was straightened and a system of breaks decided on, which have been found to work fairly well; 5,000 sleepers were brought down, out of which 60 were broken.

The cost of the slide during the year was Rs. 1,100, but there are considerable defects in its construction, which will be rectified, if possible, in 1887-88.

As it is very important to connect the sledge road and slide, and thus save the labour of carrying down on men's backs for 3,000 feet, which for a lakh of sleepers our present annual supply at one anna each, equals Rs 6,250, it is well worth while expending money on such an experiment, and the results will be instructive to forest officers in other hill forests as well as our own.

A full report on the results of this experiment will be given next year.

The wet slide was thoroughly repaired at a cost of Rs. 1,058, and the sliding was carried on without any difficulty by daily labour.

Mr. Moir says nothing about the cost of this work, but has given the cost of floating from the Tons and Pábar depôts to Dákhpathar as follows:—

				Rs.
Cost of floating 50,308 metre gage sleepers	...	...	...	1,415
Less of 1,022 metre gauge sleepers at Re. 1	...	...	...	1,022
		Total	...	2,437

or at about 9 pies per sleeper, as against four annas from Thadiár on the Tons and 4 annas 6 pies from Arakot on the Pábar formerly paid to Mr. Winton.

The losses in transit are about half what they were last year: which is satisfactory.

Of the sleepers which reached the Dákhpathar depôts, 46,993 were accepted by the Railway Company and 52,417 worked from the Kotigád forest by a contractor were purchased at Rs. 1-2-0 each, and, after deducting about 8 per cent. for rejections, 96,239 sleepers were floated to Delhi by direct contract with the *mallahs*, though this plan is perhaps not better than the contract adopted in former years and gives more trouble, but possibly it has not yet had a fair trial. The sleepers were being handed over to the Railway Company at the close of the year, the price paid by them being Rs. 1-11-0 per sleeper as compared with Rs. 1-14-0 in previous years. A contract to take one lakh of sleepers per annum for three years has been agreed on with the Bombay, Baroda and Rajputana Railway Company.

The food godown arrangements for the Deota workpeople have been improved during the year.

In the Raiengarh forest, the sleeper works were under a contractor who worked in a very unsatisfactory manner and was dismissed at the end of the year.

54. *Fuel works for the supply of Chakráta Cantonment.*—As the Commissariat had made complaints about green fuel being delivered, a much larger supply than usual (146,145 cubic feet) was prepared and 72,000 stacked cubic feet remained in stock at the close of the year.

The question of the payment of the cost of the fuel sheds by the Commissariat Department is still pending.

Plans and estimates of a fuel sledge road about three miles long between Chakráta and Deoban were prepared by Mr. Hobart-Hampden and submitted to Government, but final orders are still pending regarding the construction of his work, which is

estimated to cost Rs. 10,720, and to save Rs. 4,733 per annum on 160,000 cubic feet of fuel, which is about our present annual supply.

Removal of produce by purchasers.

55. *Trees felled.*—The following statement shows the trees felled by purchasers as compared with the previous year and the average of the three preceding years :—

Year.	*Selection fellings.*		*Thinnings.*		*Total*	
	Trees.	Cubic feet.	Trees.	Cubic feet.	Trees	Cubic feet
Average of three preceding years .	5,460	209,140	6,598	82,501	10,058	291,641
1885-86	2,936	223,178	19,686	74,789	22,622	297,968
1886-87	2,496	144,980	9,6 0	77,648	12,116	222,628

The trees felled are distributed as follows as regards species :—

Species.	*Selection fellings.*		*Thinnings.*	
	1885-86.	1886-87.	1885-86.	1886-87.
Sál	4	595	16 430	7,465
Sain	...	...	3,256	260
Sissu	32	170	...	...
Fir and pine	1,514	1,654	...	...
Oak	...	18	...	...
Deodár	924	22	...	...
Boxwood	247	...	...	...
Miscellaneous	215	7	...	1,895
Total ...	2,936	2,496	19,686	9,620

The sál, sain and sissu trees were from the Dún Division, the miscellaneous trees mostly from Saháranpur, and all the others from Jaunsár.

The falling off under selection fellings is mostly due to the discontinuance of the sale of deodar trees on account of the very inadequate prices, Rs. 8 to 10, obtained from contractors, whilst the trees are well worth over Rs. 20 to 25, according to their positions, the average yield of 202 trees sold to a contractor last year being 135 metre gauge sleepers ; also to the danger of further flooding the market, already gorged with sleepers from Native States. The falling off under thinnings is due to the fact that much of the standing timber sold in the previous year in the Dún was only worked out this year; and it was not thought desirable to overstock the market.

Small prices are now charged for deodar and kail trees granted to villagers in Bashahr, and for deodar trees to Jaunsáris in excess of the number in the land settlement report as to be given free ; this system will be regulated, as it is not desirable to encourage the former wasteful use of valuable timber.

56. The amount of produce removed by purchasers is exhibited as follows: —

Produce removed.		1885-86.		1886-87.	
		Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.
Timber	cubic feet.	326,226	64 404	298,362	25,372
Poles and saplings	,,	34 440	5,663	32,516	7,697
Bamboos	scores.	180 065	27,423	124,606	14,626
Firewood	cubic feet	473,227	10,900	553,814	11,840
Ditto (charcoal)	,,	3,988	368	4,746	95
Grazing dues		...	21,610	...	25,604
Minor produce	,,	...	14,809	...	16,855
Total ...		...	1,47,167	...	1,02,097

The principal falling off is under timber and bamboos, the former due to non-sale of standing deodar except fir trees to villagers and greatly reduced sales of standing sál and sain in Dehra Dún; the latter to the seeding of bamboos in the Dehra Dún and Sahárunpur and to their deterioration in Tihri Garhwál.

There is a substantial increase in grazing dues collected in both the plains divisions, due to the improved system of counting the cattle.

Free grants of forest produce.

57. It has been ordered by Government that after 1887-88 the saw should be used instead of the axe for deodar timber removed by grantees in Jaunsár. The divisional officer has endeavoured to pave the way for this change by offering to saw up the timber and only charge cost price, or by teaching village sawyers, but though many khats have taken to the use of the saw, many others, chiefly on the Jumna side of the Deoban-Karamba ridge, refuse to saw their timber.

58. *Trees felled*—The following table shows the number of trees felled and given to the villagers during the year:—

Year.	*Selection fellings, &c.*	
	Number.	Cubic feet.
Average of three preceding years	7,689	769,513
1885-86	1,450	107,040
1886-87	1,120	76,766

The species given away are as follows compared with those of last:—

	1885-86.	1886-87.
Sál	84	56
Sain	...	15
Deodar	247	168
Fir and pine	1,009	721
Oak	21	97
Other trees	89	78
	1,450	1,120

Fourteen sál, 15 sain, and 3 kukat trees were given to the Mahant of Monikireti for repairs of his temple, and 1,320 cubic feet of fuel to the Leper Asylum at Dehra.

The remaining trees were all granted to villagers in Jaunsár and felled by them during the year, whilst in previous years all trees granted and marked were entered on the list whether the villagers felled them or not.

59. *Produce removed.*—The following statement compares the produce removed by grantees with that of the previous year when the free firewood &c., was not shown:—

Description of produce.		1885-86.		1886-87.	
		Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.
Timber	Cubic feet.	108,485	9,748	82,132	7,863
Poles and saplings	No.	440	27	155	39
Bamboos	Scores.	...	...	25	1
Firewood	Cubic feet.	13,210	188	1,969,040	61,533
Grazing at half rates ...	... ...	...	Not shewn.	...	1,501
Free grazing and fodder grass ...	...	...	Do.	...	6,380
Minor produce	...	...	Do.	...	500
Total ...		...	9,963	...	77,757

Stock

60 The statement showing details of the value of stock is given in an appendix.

Its value is Rs 2,01,506, as compared with Rs 1,55,883 at the commencement of the year, showing an increase of Rs. 45,623.

The following table explains this:—

	Increase or decrease in value				
	Dehra Dún	Saháranpur	Jaunsár	Direction	Total
	Rs.	Rs	Rs	Rs.	Rs.
Timber	+ 5 789	— 4,776	+ 18,845	...	+ 19 858
Firewood and charcoal	— 518	...	+ 4 569	...	+ 4,051
Minor produce	...	.	+ 1	.	+ 1
Live stock	...	.	...		
Dead stock ...	} + 3,640	+ 569	+ 2,962	+ 14,642	+ 21,713
(Building) furnitures, tools, &c ..					
Total ...	+ 8,911	— 4 207	+ 26,377	+ 14,642	+ 45,623

The increase in Dehra Dun is due to timber in depôt and new buildings

The decrease in Saháranpur is due to the sale of all the timber in the Dholkhand depôt, and the increase in Jaunsár is due to the large quantity of sleepers and fuel in hand and to the new buildings erected.

The value of the students' quarters at the forest school accounts for the large increase in the Direction Division.

61. *The trade in forest produce*—There is little to add to the information given last year.

The result of the auction of leases in the Dehra Dun Division was as follows, as compared with the average of last five years —

	1886-87	*Average of last five years*
Dry fallen wood, grass, bamboos and minor produce ...	4 090	10,248
Limestone, including driftwood	2,317	2,951
Hides	201	408
Sumla gum	1,030	327
Total ...	7,638	13,934

The whole of the grass in the Nágsidh Forest is now disposed of departmentally, as also the drift wood on the lower Suswa, which were formerly included under leases. The demand for lime has fallen off considerably owing to the completion of the Oudh and Rohilkhand Railway works, and lower prices have been obtained for standing timber, which is really of very inferior quality, as we are selling the relics of years of neglect and saving the better trees.

There is also little to add to last year's remarks about the Saháranpur forests, and although fire-conservancy has been greatly extended, and the period during which the forests are opened to lessees curtailed, the amounts received in the annual auctions of fallen fuel, bamboos and minor produce are maintained, as the following statement shows —

	1883	1884	1885	1886.
Number of blocks leased	40	40	40	41
Amount in Rs	20,620	15,770	18,441	22,235

The sale of boulders to metalling contractors continues and produced Rs. 684 during the year, and large quarries for this material have been opened out in private lands at Hardwár by the Oudh and Rohilkhand Railway, from which the owners are realizing fine revenues.

A quantity of spruce timber was felled and prepared in 2,000 scantlings $8\frac{1}{2}' \times 10''$ to $14'' \times 6''$ for tea boxes for the Dehra Dún Tea Company, but having been launched late in the rains did not come down the Tons river, though it is hoped that it will arrive at Dákhpathar this year.

Some correspondence has been carried on regarding a supply of fir pulp for paper material to the Coupor Mills Company of Lucknow.

The question of the supply of moru oak staves for the hill breweries is still pending, but as the staves for each cask arriving at Saháranpur from Europe cost Rs. 10, it is well worth while trying the hill oaks as a substitute for European oak.

Regarding the trade in deodar sleepers from the forests of the petty hill states, I hear that the Tons river is full of sleepers, and that several lakhs will reach the Dákhpathar-depôt in June and July.

These hill chiefs have suddenly come into an heritage of ready money from the sale of their trees at very inadequate prices, and without any consideration of the state of the market or the necessity of protecting their forests ; and unless the Panjáb Government supervise their working, they may be expected to last from 10 to 15 years, after which the hill chiefs' revenues will return to their former insignificant proportions, which their land revenue produces.

Since the death of the late Tihri Rája, all exports from the unleased forests of that State have been stopped by order of the Commissioner of Kumaun, in charge of the State, until the present Rája comes of age.

The people have, however, burned the splendid Báshla chír forest on the Tons river, which had been long protected from fire, and it is a great pity that these fine forests are not definitely protected for the people of the Doab by being leased to the Forest Department, to the very great benefit of the revenues of the Tihri State.

CHAPTER V.

Financial Results.

Receipts and Expenditure.

62. The financial results under receipts and expenditure compare as follows with those of the previous year and the average of the four previous years :—

Division.	*Receipts.*			*Expenditure.*			*Surplus.*		
	Average of 4 previous years, i.e., 1881 to 1884-85.	1885-86.	1886-87.	Average of 4 previous years, i.e., 1881 to 1884-85.	1885-86.	1886-87	Average of 4 previous years, i.e., 1881 to 1884-85.	1885-86.	1886-87.
	Rs.	Rs	Rs.	Rs.	Rs	Rs.	Rs.	Rs.	Rs.
Dehra Dún ...	66,020	99,654	74,636	45,904	55,654	58,183	+19,116	+44,000	+16,453
Saháranpur ...	35,923	42,010	39,927	21,772	23,209	23,461	+14,151	+18,801	+16,466
Jaunsár ...	1,55,815	1,94,647	2,21,570	1,66,805	1,04,963	1,63,748	−12,990	+89,684	+57,822
Direction ...	2,283	338	726	48,992	23 017	21,973	−46,709	−22,679	−21,225
Total ...	2,60,041	3,36,649	3,36,859	2,86,173	2,06,843	2,67,365	−26,112	+1,29,806	+69,516

The revenue of the Circle is almost identical with that of the previous year, and exceeds the average of the previous four years by Rs. 76,800, in round numbers.

It has been maintained by the extensive sleeper operations in Jaunsár, nearly one lakh of sleepers having been sold to the Railway Company instead of about half that number, as in former years.

Owing to the quantity of timber in the market, it was necessary to reduce the price of the sleepers from Rs. 1-14-0 to Rs 1-11-0, thus causing a loss of revenue of Rs 17,822 on the 95,057 sleepers sold to the railway.

There is a falling off in the Dehra Dún revenue of Rs. 25,018, compared with last year, though the revenue is still about Rs. 8,600 higher than the average of the preceding four years.

The revenue of the preceding year was abnormally increased by a payment of Rs. 10,250 by the Canal Department for wood, the charges for which come into this year's expenditure.

There were also reduced sales of standing trees, and the leases were less productive and the demand for limestone reduced.

When the working plan of the Dún forests is out, we may expect a steadier revenue than heretofore.

The revenue of the Saháranpur Division, though about Rs. 2,000 less than last year, exceeds the average of the preceding four years by Rs. 4,000. It would have been more than maintained had the whole of the grazing dues collected through the tahsíldárs been realized during the year.

The depreciation of the bamboo forests, owing to the seeding and dying down of the clumps, will impede the expansion of the revenue of this Division for many years.

The expenditure of the Circle has increased since 1885-86 by Rs. 60,500, this increase being as follows in the different divisions :—

	Rs.
Dehra Dún	2,529
Saháranpur	252
Jaunsár	58,785
Total ...	61,566

Whilst there is a saving of Rs. 1,066 in the Direction Division.

The increased expenditure in Dehra Dún is on roads and for the Phandowála bungalow, whilst that in Jaunsár is due to the expansion of the Government sleeper operations and the provision of a large quantity of fuel for the Commissariat, which will be made over in the current year.

There has also been considerable expenditure in the Jaunsár Division on the working plans of the Tihri leased deodar forests, and the fuel forests of Chakráta, being :—

Rs. 1,146 ... ... Under A
„ 3,151 ... ... „ B

which expenditure is really an extraordinary charge on the division, which will shortly cease.

The expenditure in the Dehra Dún Division has expanded by Rs. 11,279, compared with the average of four years previous to 1885-86, and the question of reduction of expenditure in this division will be carefully considered, when the next revised budget-estimates are framed.

At the same time, it must be noted that we are now protecting all the sál forests in the division from fire, and are cutting climbers and coppicing down all inferior growth, keeping open 346 miles of export roads and paths, the length of which is added to every year, as the forests become more opened out; so that considering the poor condition of the larger standing crops in the forests, the balance between expenditure and income cannot be expected to be very favourable.

The Saháranpur forests, which are even more backward than those of the Dún, are worked with every attention to economy ; and to any one acquainted with their nature the surplus obtained will be considered satisfactory.

The high expenditure on the direction of such a small circle is only warranted when the interests of the forest school are concerned ; and it would be a benefit to the circle as well as the school, if the arduous duties of Director and Conservator were to be separated.

Sources of Revenue.

63. The receipts are derived from the following sources :—

Sources of Revenue.

Division.	*Timber and other produce removed from the forests by Government agency.*			*Timber and other produce removed from the forests by consumers and purchasers.*			*Confiscated drift and waif wood.*			*Revenue from forests not managed by Government.*			*Miscellaneous.*			*Totals.*		
	Average of 4 previous years, i. e., 1881 to 1884-85.	1885-86.	1886-87.	Average of previous 4 years, i. e., 1881 to 1884-85	1885-86.	1886-87.	Average of previous 4 years, i. e., 1881 to 1884-85.	1885-86.	1886-87.	Average of previous 4 years, i. e., 1881 to 1884-85.	1885-86.	1886-87.	Average of previous 4 years, i. e., 1881 to 1884-85.	1885-86.	1886-87.	Average of previous 4 years, i. e., 1881 to 1884-85	1885-86.	1886-87.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Dehra Dún	1,308	13,539	4,071	60,854	74,753	63,421	3,465	11,070	6,726	1	...	...	392	252	418	66,020	99,654	74,636
Saháranpur ...	643	3,224	3,861	33,607	38,017	35,985	1,138	...	...	...	...	...	535	769	81	35,923	42,010	39,927
Jaunsár	1,32,167	1,64,154	2,03,713	13,040	20,965	8,781	174	58	13	8,282	9,517	*8,612	2,222	653	451	1,55,885	1,94,647	2,21,570
Direction... ...	...	...	...	...	...	...	...	...	...	...	...	...	2,233	338	726	2,233	338	726
Total ...	1,34,118	1,80,917	2,11,645	1,07,591	1,33,075	1,18,187	4,777	11,128	6,739	8,283	9,517	8,612	5,382	2,012	1,676	2,60,061	3,36,649	3,36,859

* Foot-note.—Jamna river dues.

Expenditure under A and B.

The following tables show the expenditure :—

A.—Conservancy and Works.

Division.		Timber and other produce removed from the forests by Government agency.	Timber and other produce removed from the forests by purchasers.	Confiscated drift and waif wood.	Revenue from forests not managed by Government.	Revenue from leased forests.	Live stock, stores, tools and plant	Communications and buildings.	Demarcation and improvement.	Miscellaneous.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Dehra Dún.	Average of previous four years ...	31	1,948	1,080	...	1,851	2,025	7,272	9,396	2,152	25 755
	1885-86	4,988	5,749	4,367	...	3,351	985	5,240	7,266	1,609	33,555
	1886-87	6,445	2,713	3,942	...	3,351	2,156	9,618	7,920	1,128	36,968
Sahárán-pur.	Average of previous four years ...	446	4,921	60	...	...	879	1 802	5,315	393	13,816
	1885-86	1,610	4,479	...	...	...	718	1 896	4,258	378	13,339
	1886-87	2,079	3,835	...	...	...	907	1,503	3,446	198	11,368
Jaunsár.	Average of previous four years ...	1,21,401	...	...	1,408	6,850	666	8,785	4,226	2,232	1,45,368
	1885-86	53,261	...	...	1,648	11,150	158	6,402	6,257	650	79 526
	1886-87	1,19,402	...	...	3,375	11,150	294	6,249	4,434	501	1,45,405
Direction.	Average of previous four years...	...	...	...	...	...	2,916	5,757	1,047	3,174	12,894
	1885-86	...	...	...	...	...	944	2,067	...	975	3,986
	1886-87	...	...	...	...	...	921	1,527	...	1,231	*3,679
Total.	Average of previous four years...	1,21,873	6,869	1,140	1,408	8,501	6,485	23,616	19,984	7,951	1,97,833
	1885-86	59,859	10,228	4,367	1,648	14,501	2,805	15,605	17,781	3,612	1,30,406
	1886-87	1,27,926	5,948	3,942	3,375	14,501	4,278	18,592	15,800	3,058	1,97,420

It will be seen that the A expenditure, though exceeding that of last year by Rs. 67,000, chiefly under departmental timber work, is almost the same as that of the previous four years, in spite of the large permanent increase, Rs. 6,000, in the rent of the leased forests ; so that savings have been shown under every other head except on Ganges drift wood and on the control of the Jumna river traffic, both of which are paying concerns; and the increase in the latter charge is merely nominal, due to boom charges being no longer shown under A. 1.

B.—Establishments.

Division.		I. Salaries.	II. Travelling allowances	III. Contingencies.	Total.
		Rs.	Rs.	Rs.	Rs
Dehra Dún ...	Average of four preceding years...	17,842	2,220	1,087	21,149
	1885-86	18,323	2,209	1,567	22,099
	1886-87	18,022	1,781	1,411	21,214
Sahárán-pur,	Average of four preceding years...	6,025	1,077	858	7,957
	1885-86	7 706	1,157	947	9,870
	1886-87	10,252	1,173	668	12,093
Jaunsár ...	Average of four preceding years...	19,324	2,814	999	23,137
	1885-86	21,102	2,962	1,373	25,437
	1886 87	15,199	2,091	1,054	18,344
Direction ...	Average of four preceding years...	29,986	3,904	2,208	36,098
	1885-86	15,470	1,182	2,379	19,031
	1886-87	14,913	1,278	2,081	18,272
Total ...	Average of four preceding years...	73,174	10,015	5,152	88,341
	1885-86	62,601	7,510	6 266	76,437
	1886-87	58,386	6,325	5,214	[illegible]

A saving of Rs. 6,514 compared with previous year, and of Rs. 18,418 compared with the average of the previous four years is satisfactory, but the latter is principally due to savings in the Direction Division owing to the Government of India now bearing the cost of Dr. Warth's salary.

The principal savings of the year are in the Jaunsár Division, as Mr. Hobart-Hampden's pay is much less than Mr. Moir's, who has been on furlough.

65. *Receipts and expenditure under the three great sub-heads.*—The receipts and expenditure under the three heads :—I.—Departmental timber operations. II.—Other revenue. III.—Formation, protection and improvement of forests, were as follows :—

Division.		*Departmental timber operations.*			*Other revenue.*			Formation, protection and improvement charges	Net surplus.
		Receipts.	Charges.	Surplus.	Receipts.	Charges.	Surplus.		
Dehra Dún.	Average of six years ...	2,451	715	1,736	57,634	9,233	48,401	31,989	18,648
	1885-86	13,266	4,987	8,279	86,388	11,594	79,794	37,073	44,000
	1886-87	4,071	6,445	−2,374	70,565	10,187	60,378	41,851	16,453
Saháranpur.	Average of six years ...	428	298	130	33,284	10,376	22,908	10,375	12,663
	1885-85	3,224	1,610	1,614	38,.86	10,510	28,276	11,089	18,801
	1886-87	3,861	2,079	1,782	36,066	10,316	25,680	10,996	16,466
Jaunsár.	Average of six years ...	1,42,940	1,20,554	22,386	16,820	4,324	12 602	30,026	4,962
	1885-86	1,64,153	64,508	99,645	30,494	3,898	26,596	36,557	89,684
	1886-87	2,05,718	1,27,648	76,065	17,857	5 041	12,816	51,059	37,822
Direction.	Average of six years ...	...	23,963	−23,963	1,491	5,361	−3,870	17,520	−45,353
	1885-86	...	7,672	−7,672	338	7 673	−7,335	7,672	−22,679
	1886-87	...	7,317	−7,317	726	7,317	−6,591	7,317	−21,225
The Circles.	Average of six years ...	1,45,820	1,45,530	290	1,09,235	29,194	80,041	89,210	−8 879
	1885-86	1,80,643	78,777	1,01,866	1,56,008	35,675	1,20,331	92,391	1,29,806
	1886-87	2,11,645	1,43,489	68,156	1,25,214	32,931	92,283	90,923	69,516

It will be seen that the expenditure on the improvement of the forests is about constant, remaining at Rs. 90,000 or about annas 2·8 per acre of forest. The figures under the other heads vary with the trade, though the changes under II tend to remain constant at about Rs. 30,000 per annum.

Principal causes of variation in revenue and expenditure.

66. *Revenue.*—The revenue exceeds that of the previous year by Rs. 210, and that of the average of the four previous years to 1885-86 by Rs. 76,798.

The increase on last year's figures is in the Jaunsár and Direction Divisions :—

	Rs.
Direction	388
Jaunsár	26,923
Total	27,311

Whilst there is a falling off in the plains divisions of :—

	Rs.
Dehra Dún	25,016
Saháranpur	2,085
Total	27,101

The revenue in the Direction Division is chiefly derived from the sale of wood for furniture to forest students and others. It is necessary to keep a stock of seasoned wood in hand for this purpose.

The falling off of revenue in the Dún is accounted for as follows :—

	Rs.
Less timber supplied to Canal Department and advance payment of previous year	2,468
Less standing timber sold to purchasers .	8,400
Less bamboos ditto ..	5 089
Less minor produce ditto ...	1,100
Less drift wood collected and sold	4,344
Total ...	28,451

Whilst, on the other hand, we have :—

	Rs.
More firewood removed by purchasers	1,028
More grazing dues	2,249
Miscellaneous	166
Total ...	3,443

The falling off of bamboos is due to their deterioration and non-sale in Tihri Garhwál and to their seeding in the Siwáliks.

The amount of drift timber brought down by the Ganges river is evidently beyond our control.

The decrease, Rs 2,083, in the Saháranpur Division is due to the deterioration of bamboos, and to the non-collection of grazing revenue during the year by the Tahsildars.

The increased revenue of the Jaunsár Division is nearly all due to increased departmental sleeper operations, Rs. 39,559, there being a falling off of Rs 11,484 under II, due to the discontinuance of the sale of standing deodar to contractors ; there is also a falling off of about Rs. 900 for Jumna river dues.

Expenditure A.

67 The expenditure under A, Rs. 1,97,420, exceeds that of 1885-86 by Rs. 67,014, being about equal to that of the previous four years.

The increase on the previous year's expenditure occurs as follows :—

	Excess Rs	*Saving.* Rs.
Direction		307
Dehra Dún	3,413	...
Saháranpur		1,971
Jaunsár	65 879	...
Totals ...	69,292	2,278
Excess ...	67,014	

As regards the different divisions the excess is accounted for as follows :—

Dehra Dún

	Rs.
Delivery of timber to Canal Department	1,090
Fellings in Nágsidh	415
Repairs to roads	1,826
Phandowála rest-house	2,726
Increased area protected from fire	557
New tools	831
Miscellaneous	18
Total ...	7,463

Whilst there has been a decrease in the following :—

	Rs.
Temporary establishment made permanent	3,038
Working plans	589
Less drift collected	425
Total ...	4,050

Thus leaving an excess of Rs 3,413 compared with the previous year.

In the Saháranpur Division we have the following savings:—

	Rs.
Temporary establishment made permanent	1,944
Miscellaneous savings	727
Total ...	1 971

Jaunsar Division

	Rs.
Increased departmental timber and fuel works	60,142
Increased river charges	1,727
Total ...	67 869
Savings in demarcation	1,823
Ditto miscellaneous	167
Total ...	1,990
Excess expenditure	65,879

The large increase in the charges for departmental timber works are owing to Rs 2,880 for unsold fuel in the Chakrata depôt, and Rs 30,262 paid for sleepers purchased from Hari Das, also Rs. 11,700, the balance due to Mr. Winton for his bill for floating sleepers previous to 1884-85, which could not be settled before, Rs 18,000, the cost of 27,128 sleepers in transit to Dakhpathar, and about Rs 3,300 for the preparation of miscellaneous scantling and planks of chir, kail, sal, &c.

Expenditure B.

68. The expenditure for the circle under B was Rs. 69,923, being Rs 6,514 less than that of the preceding year, and Rs 18,418 less than the average of the four years previous to 1885-86.

The decrease is accounted for as follows:—

	Excess. Rs.	*Saving* Rs
Direction	...	759
Dehra Dún	...	885
Saháranpur	2,223	.
Jaunsar	...	7,093
Total ...	2,223	8,737
	Less	2,223
Net saving ...		6,514

In the Direction Division we have:—

	Saving. Rs
Less pay of superior officers	1,281
Miscellaneous savings	202
Total ...	1,483
Increased cost of office	724
Net saving ...	759

The savings in the Dún are as follows:—

	Rs.
Absence of gazetted assistant	3,221
Miscellaneous	30
Total ...	3,251
Increase in permanent establishment	2,366
Net saving ...	885

In the Saháranpur Division we have:—

	Rs.
Increased permanent establishment	1,608
Increased pay of divisional officer due to promotion ...	700
	2,308
Less miscellaneous savings	84
Net increase ..	2 224

Jaunsar

	Rs.
Reduced pay of divisional officer	6,990
Other savings	94
Net saving	7,039

Outstandings and liabilities

69 The outstandings and liabilities on account of contractors and disbursers are shown in form No. 61.

At the commencement of the year they were Rs. 17,702, and at the close of the year Rs. 16,873, the liabilities being Re. 1. The amount is distributed as follows :—

	Outstandings. Rs	*Liabilities* Rs.
Direction	306 ...	...
Dehra Dún	1,776 ..	1
Saháranpur ...	819 ...	
Jaunsár	13,972 ...	...
Total ...	16,873 ...	1

The outstandings are all due by disbursers and contractors, and the large amount in the Jaunsár Division is warranted by the nature of the heavy works being carried on at the close of the year.

Outstandings of revenue.

70. The outstandings of revenue were as follows at the close of the year:—

	Rs
Dehra Dún	11,527
Saháranpur...	6,856
Jaunsár	2,872
Total ...	21,255

Those in the Dún and Rs. 573 in Saháranpur are on account of sales of standing timber and lease money for minor produce, which is payable in instalments.

Rupees 6,283 in the latter division is grazing dues not collected within the year by the tahsíldárs.

The outstanding in Jaunsar is chiefly due from purchasers of standing chír timber, whose timber will be detained at Dákhpathar until the arrears have been paid in.

CHAPTER VI.

General Remarks.

Main facts relating to each division.

71. The following table prescribed by Government gives the main facts relating to each division :—

Division.		Area in acres	Yield of timber in cubic feet.	Kind of timber.	Yield of timber in cubic feet per acre	Total receipts.	Receipts per acre	Total expenditure	Expenditure per acre.	Total surplus or deficit	Rate of expenditure to receipt	Surplus per acre
						Rs	As	Rs	As.	Rs		As.
Dehra Dún ...	1885-86	177,080	127,870	Sal, sain, tún, chír and miscellaneous.	·72	99,654	9 0	55,654	4 8	+44,000	56	3 97
	1886-87	177,080	172,969	Ditto ..	98	74,636	6·74	58,183	5·28	+16,453	79	1 49
Saháranpur ...	1885-86	188,563	3,536	Ditto ..	02	42,010	3 56	23,209	1 96	+18,801	·55	1·60
	1886 87	188,563	4,712		02	39,927	3 36	23,461	1·97	+16,466	58	1 48
Jaunsar ..	1885-86	147,631	415,758	Deodar, chír ...	2 81	1 94,647	21 10	1,04,963	11 37	+89 684	54	9 72
	1886 87	147,964	438,834	Fir, oak, &c. ..	2·98	2,21,570	24 32	1,63 748	17 76	+57 822	·74	6 25
Direction ...	1885 86	..	—	...	...	388	...	23,017	...	−22,679	67 1	..
	1886-87	...	...		...	726	..	21 951	...	−21,225	30·2	...
Total ...	1885-86	513,274	547,164	.	1 06	3,36,649	10 5	2,06 843	6 44	1,29,806	61	4 04
	1886-87	513,607	616,515	..	1 2	3,36,859	10.5	2,67,343	8 33	69,516	·79	2 16

It will be seen that the yield of timber per acre in the forests of the circle has increased from 1·06 to 1·2 cubic feet, the increased yield being chiefly in the Dehra Dún Division, and that the yield of the hill forests, 2·98, is three times that of the Dún, and nearly 150 times as great as that of Saháranpur.

The average receipts per acre in the circle remain unaltered at 10·5 annas per acre, whilst in the Dún there is a falling off from 9 to 6·74 annas and in the hill forests an increase from 21·16 to 24·32, there being little change in Saháranpur.

The expenditure per acre has risen from annas 6·44 to annas 8·33, the increase being chiefly in Jaunsár.

The surplus is about half what it was in the previous year.

Control of the timber traffic on the Ganges and Jumna rivers.

72. Final orders of Government No. $\frac{537F}{47a-8}$, dated 12th October, 1886, were issued, giving complete control of the transport of forest produce on the Ganges river to this department, and this control commenced on the 26th January, 1887.

No fees are charged, but passes are examined at Hardwár, and only authorized timber marks are to be used in future. Thus private and Government interests will be served and timber piracy prevented, which formerly prevailed largely on this river, so that prices for stolen timber were quoted in the Jawálapur market.

The following is the produce exported to the 31st March since the commencement of the control :—

Description.	From Dehra Dún Division.	From Ganges Division.	From private forests.	Total.
	No.	No.	No.	
Sál and sain karris...	1,144	...	...	1,144
Sál tors and ballis	2,732	99	1 594	4,425
Kukat pieces	340	206	1,775	2,321
Chir karris	...	...	459	459
Miscellaneous logs	44	279	...	323
Bamboos	2,680	64,510	...	67,190
		Cubic feet	Cubic feet	
Firewood	...	68,580	2,220	70,800
Bundles reeds	...	116	7	123

The arrangements with regard to the control of the timber trade on the Tons and Jumna rivers have remained the same as during the previous year. Many reforms are doubtless necessary, but until some satisfactory settlement is come to with the Rája of Sirmúr regarding his claims, it is advisable not to alter the present rules.

The Commissioner of Meerut, the Rája's brother, Debi Singh, and Mr. Hearle met on the Jumna in November, 1886, and discussed the Rája's claim, and the matter has since rested with the Commissioner of Meerut.

As stated in last year's report, the former manager of the Annfield estate agreed to lease the depôt lands to Government for Rs. 100 a year; but he subsequently refused to sign the lease, as the whole property of the company was to be sold to the Rája of Sirmúr, who acquired possession of it before the close of the year.

There has been much less quarrelling amongst the floating gangs of the numerous timber merchants, and they seem now to work together much better than they did few years ago.

The following statement shows the timber traffic during the year and the amount of dues levied :—

Year.	Pieces of timber.				Rafting dues		
	Removed by Government agency.	Removed from Government forests by purchasers.	From private forests.	Total	From purchasers from Government forests.	From private forests.	Total.
	Pieces.	Pieces.	Pieces.	Pieces	Rs	Rs	Rs
1885-86 ...	50 688	132,635	235,097	418,420	3 561	4,362	7,923
1886-87 ..	50,735	85,663	257,372	403,770	1,386	5,120	6 506

This statement exhibits a decrease of 14,660 pieces exported and also a falling off of Rs 1,417 on the amount of rafting dues levied.

This is entirely due to the cessation of sales of standing deodar to contractors from the Government forests.

The timber exported is classed as follows :—

Description	Government agency	Purchasers from Government forests.	From private forests.	Total.
B. G deodar sleepers	...	9,147	52,040	61,187
M G. deodar sleepers	50,215		38,079	88,294
Chir scantlings	20	51 587	73,408	1,25,015
Sál scantlings	200	1,195	38,471	39,866
Miscellaneous	300	2,716	85,874	89,408
Total ..	50,735	65,663	2,87,372	4,03,770

A comparision with the figures of last year shows that there has been a considerable falling off in the export of M. G. sleepers, but an increase in the number of chir scantlings floated has taken place.

One hundred and ninety thousand seven hundred and eighteen chir karris and sal tors and bállis came from the Phillour Division of the Panjab, but the number exported from the Dún and from Saharanpur is not ascertainable.

The expenditure on the boom at Dákhpathar and on the control of the floating amounted to Rs. 3,374, compared with Rs. 3,179 last year.

The boom at Dákhpathar was erected during November, and will remain up until the line is broken by the monsoon floods.

The boom was constructed on the same plan as during the previous year, which is found to answer admirably ; but the length was increased by Mr. Hobart-Hampden.

This is a great improvement and enables the line of logs, attached to the boom, and which is the weak portion of the construction, to be kept out of the main current of the river.

As an experiment an iron grating was constructed below a certain length of the boom, in order to prevent timber from passing through below ; but the effect of this addition is to make the boom sink when any unusual pressure is brought upon it by a sudden rising of the river.

Some new wire ropes will have to be purchased, as the málghan fibre and bán ropes are found to be both expensive and unreliable.

After the removal of the boom in June last, an establishment of mallahs was kept up to catch and bring to depôt all drift timber, and a considerable quantity was secured by them.

Supply of seed.

73. Twelve maunds 26 seers of seeds, chiefly sissu and tún, have been supplied by the Dehra Dún Division for the Opium Factory, Patna, for Kapurthala, Singapur and Ceylon, and 251½ lbs. or three maunds five seers of seeds, chiefly deodar and kail, have been supplied to meet indents from the Jaunsár Division, though the destination of the seeds is not stated.

The supply involves a considerable amount of trouble, as indents from all parts of the world are referred to the School Circle by the Government of India.

Collection of turpentine.

The experiments regarding the supply of turpentine from chír trees were continued, but the results are similar to those already reported; a total quantity of 23 seers being taken from 20 new trees and 14 seers from 20 old trees. The instruments used in France for '*résinage*' have been received from Major Bailey, and will be utilized in 1887-88.

Effects of fire-protection on the watercourses in the Siwaliks.

75. Levels of all the raus to the south of the Siwáliks were taken by Rám Narain, a student of the forest school, from the Jeypur State, and nine representative raus have been chosen, of which levels and surveys will be taken in future annually.

A report on the subject is being printed, and will be shortly submitted to Government.

Tour of Conservator.

76. The Officiating Conservator inspected works and forests and instructed students in the Jaunsár Division in May and June, returning to Dehra early in July, to direct the course at the forest school.

From November till March he was engaged in inspecting the forests of the plains divisions, and instructing the students in the forests.

Services of Officers.

77. The notice of Government is again drawn to the unremitting attention to their duties shown by officers of the School Circle, several of whom have, in addition to their executive duties, to assist in the instruction at the forest school during the monsoon months.

ANNUAL STATEMENTS
AND
APPENDICES.

ANNUAL FORM No. 49.—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Area of Reserved Leased, and protected Forests, and District Waste Lands, 1886-87.

Division Range.	Civil District or Territory.	Name of Forest.	Area on 1st April, 1886. Acres.	Area on 1st April, 1886. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 1st March, 1887. Acres.	Area on 1st March, 1887. Equivalent in square miles.	No. and date of notification of addition or transfer.	Remarks.
		Reserved Forests.								
Dehra Dún. Western Range ...	Dehra Dún ...	Ambári ...	4,203	7	...	...	4,203	7		
		Chandpur ...	2,251	3	...	...	2,251	3		
		Jamna ...	9,130	14	...	...	9,130	14		
		Tiuli ...	19,704	31	...	...	19 704	31		
Malhán ,, ..	Ditto ...	Dholkot ...	4,826	8	...	...	4,826	8		
		Sherpur ...	13,922	22	...	...	13,922	22		
		Chandrabani ...	7,389	11	...	...	7,389	11		
Central ,, ...	Ditto ...	Ramgarh ...	10,482	17	...	...	10,482	17		
		Bulawála ...	14,965	23	...	...	14,965	23		
		Nágsidh ...	16,517	26	...	...	16,517	26		
Eastern ,, ...	Ditto ...	Kánsrao ...	20,940	33	...	...	20,940	33		
		Motichur ...	22,073	34	...	...	22,073	34		
Tháno and Tirsál Ranges.	Ditto ...	Malkot ...	5,641	9	...	...	5,641	9		
		Tháno ...	6,576	10	...	...	6,576	10		
		Tirsál ...	18,066	28	...	...	18,066	28		
		Sainkot ...	495	1	...	...	495	1		
		Total Dehra Dún Division.	1,77,080	277	...	...	1,77,080	277		
Saháranpur. Western Range ...	Saháranpur ...	...	81,862	128	...	...	81,862	128		
Central ,, ...	Ditto ...	...	74,961	117	...	...	74,961	117		
Eastern ,, ...	Ditto ...	...	31,740	50	...	...	31,740	50		
		Total Saháranpur Division.	1,88,563	295	...	...	1,88,563	295		
Jaunsár Division. Deoban Range ...	Dehra Dún ...	Kálsi ...	4,566	7	...	...	4,566	7		
		Strips on Jamna and Tons.	422	1	...	...	422	1		
		This includes—								
Ditto ...	Ditto ...	Batrit. Kua ...	279	...	...	...	279	...		
		Korwa ...								
		Kothar ...								
		Baudla ...								
		Rama ...								

Jaunsár Division—(concluded).	Deoban Range ...	Dehra Dún ..	Amláwa ...	402	1	...	*117	285	1	* North-Western Provinces and Oudh, Notification No 247F./6067, dated 1st July, 1886.
			Lokandi ..	6,975	11	...	...	6 975	11	
			Deoban ...	6,545	10	...	...	6,545	10	
			kkra ..	5,313	8	...	...	5,313	8	
			Karamba ...	1,1842	19	...	...	11 842	19	
			Konam ...	4,654	7	...	...	4,654	7	
	Báwár ,, ...	Ditto ...	Bikuár ...	6,450	10	...	...	6,450	10	
			Dhárágád ...	13,540	21	...	...	13,540	21	
			Dharmigad ..	10,013	16	...	...	10,013	16	
			Bastil	3,085	5	...	...	3,085	5	
	Deogarh ,, ...	Ditto ...	Deogár ...	11,272	18	...	...	11,272	18	
			Khunigád ...	11.974	19	.	...	11 974	19	
			Total Jaunsár Division.	97,334	153	...	117	97,217	153	
		Grand Total of reserved Forests for the Circle		4,62,977	725	...	117	4,62,860	725	
			II.—Leased Forests.							
	,, ,, ...	Jághura ...	Raiengárh (a) ...	4,552	7	†450	...	5,002	8	† Additional area of forest closed under the lease.
		Litto ..	Dádi including Ori(b),	1,630	2	...	...	1,630	2	
	Deota ,, ...	Tihri Garhwál,	Deota ..	4,937	8	...	...	4,937	8	
			Bamsa ..	2,323	4	...	...	2,323	4	
			Surás ...	1,014	2	...	...	1,014	2	
			Dátmir ...	2,560	4	...	...	2,560	4	
			Naintwár ...	‡ 3,000	5	...	...	3,000	5	
	Kotgád ,, ...	Ditto ...	Sáhira &c. ...	‡22,000	34	...	...	22,000	34	
			Norara ..							
			Chánsil ...							
			Lambatach ...	2,883	4	...	...	2,883	4	
			Kotgád ..	3,968	6	...	...	3,968	6	
	Bashahr ,, .	Basháhr ...	Basháhr (d) .	‡1,430	2	...	...	1,430	2	
			Total Leased Forests,	50 297	78	†450	...	50,747	79	
			III.—Protected Forests Nil							
Dehra Dún Division ...			*IV.—District Waste Lands.* ...	...	...	* 8,206	...	8,206	13	* Shown for the first time in this statement.
			Total District Waste Lands.	...	...	8,206	...	8,206	13	
			Grand Total, Forest Lands	5,13,274	813	8,656	117	5,21,813	817	

(a) Under 50 years' lease for Rs. 1,250 per annum renewable at the pleasure of the British Government.
(b) Ditto ditto Rs 900 ditto.
(c) Under 20 years' lease for Rs. 9,000 per annum.
‡Areas estimated.
(d) Under 50 years' lease resumable at the pleasure of the British Government. Rent paid by the Panjab Forest Department.

ANNUAL FORM No. 50—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Prosecutions for breaches of Forest rules during 1886-87

Forest Division and Civil District.	Cases pending from 1885-86.	New cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		*Convictions.*		*Acquittals.*		*Total.*		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
			I.—*Prosecutions in the Courts of Law.*											
Dehra Dún district.														
Dehra Dún			2		2	4	4	4	4			4	4	
Jaunsár	2	3		1	6	6	4	14	2	17	6	31		
Saháranpur district.														
Saháranpur		2		1	3	3			2	2	2	2	1	
Total for the Circle	2	7		4	13	13	8	18	4	19	12	37	1	
		II.—*Cases compounded under section 67 of the Forest Act.*												
Dehra Dún Division	3	21	1	7	32	32	32	54			32	54		
Saháranpur	1	26	10	31	68	69	60	172	3	25	68	197		
Jaunsár	6	23	6	2	37	37	37	57		6	37	63		
Total	10	70	17	40	137	137	129	283	3	31	137	314		

ANNUAL FORM No. 51.

Forest Department, School Circle, North-Western Provinces and Oudh.

Area of Forest tracts protected from fire during the dry season 1887, *to accompany report for* 1886-87.

Division.	Forest tracts	Year in which protection commenced.	Area actually protected up to 15th June, 1886.	During dry season of 1887.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres	Rs.	
Dehra Dún ...	Ambári	1887	...	4,203	1,089	3,114	131	
	Chandpur	1887	...	2,251	...	2,251	97	
	Jumna	1886	8,305	8,305	...	8,305	76	
	Timli ...	1884	19,704	19 704	2,025	17,679	326	
	Dholkót	1884	4,826	4,826	...	4,826	301	
	Sherpur	1884	13,882	13,922	4,369	9.553	275	
	Chándrabani	1878	7,279	7,289	...	7,289	335	
	Rámgárh	1878	10,152	10,152	150	10,002	220	
	Bulawála	1872	14,475	14,485	...	14,485	314	
	Ságsidh	1883	11,568	11,568	...	11,568	205	
	Kánsrau	1876-81	14,057	14,957	64	13,993	396	
	Motichur	1883	18,703	18,763	5,090	13,673	204	
	Tháno	1878	4,769	4,849	...	4,849	194	
	Tirsál	1887	...	13,836	...	13,836	516	
	Total ...	...	1,27,720	148,210	12,787	135,423	3,790	
	Western Range.							
	Khárá ...	1879	9,056	9,612	1,913	7,699	148	
	Bádsháhibágh	1885	6,958	7,066	2,456	4,610	164	
	Chákpri	1885	2,765	2,765	...	2,765	53	
	Khairowála	1885	2,970	2,970	...	2,970	58	
	Barkala	1885	3,015	5,133	...	5,133	81	
	Kasúmri	1885	1,370	2,579	1,589	990	113	
	Sahánsra	1885	5,216	6,048	4,388	1,660	47	
	Kotri	1888	2,669	2,669	2,669	...	65	
	Kálawála	1885	2,298	5,116	4,803	313	51	
	Sháhjahánpur	1887	...	9,572	5,273	4,299	170	
	Khajnáwár	1887	...	8,392	400	7,992	5	
	Budhában	1887	...	3,771	...	3,771	48	
	Mohand	1884	1,152	6,131	2	6,129	145	
	Central Range.							
Saháranpur ...	Sákh ...	1884	1,152	5,111	28	5,083	54	
	Chikna	1882	1,931	7,782	...	7,782	61	
	Gáj	1883	3,878	3,878	...	3,878	27	

ANNUAL FORM No. 51.

Forest Department School Circle, North-Western Provinces and Oudh.

Area of Forest tracts protected from fire during the dry seasons, 1887, *to accompany report for* 1886-87.

Division.	Forest tracts.	Year in which protection commenced.	Area actually protected up to 15th June, 1886.	During dry season of 1887.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.	Rs.	
Saháranpur	Binj	1882	5,719	5,719	...	5,719	40	
	Dholkhand	1880	3,916	3,916	...	3,916	62	
	Maluwala	1880	1,428	2,122	...	2,122	32	
	Bám	1880	786	3,013	...	3,013	28	
	Betban	1882	5,093	6,781	139	6,642	113	
	Golna	1886	3,746	3,746	...	3,746	55	
	Lálwála	1884	499	499	30	469	33	
	Baniawála	1883	500	500	...	500	33	
	Lakarkot	1879	3,646	3,646	...	3,646	140	
	Ganjarban	1879	2,833	2 833	...	2,823	173	
	Rasulpur	1879	..	1 987	...	1,987	80	
	Sendhli	1883	2,540	2,560	2	2,558	172	
	Tira	1884	1,013	1,791	...	1,791	38	
	Eastern Range.							
	Harnaul	1886	2,035	2,035	...	2,035	53	
	Chirák	1886	3,860	3,860	...	3,860	44	
	Báuli	1879	3,038	3,038	162	2,876	40	
	Báni	1879	4,885	4,885	15	4,870	62	
	Maisipur	1886	1,370	1,364	7	1,354	66	
	Pathri	1889	582	672	...	672	265	
	Total	...	91,029	143,259	23,876	119,383	2,819	
	Deoban Range.							
	Kálsi	1872	2,500	2,500	...	2,500	22	
	Baurát							
	Amláwa							
	Cantonment Blocks and Forest Garden	1889	561	561	6	555	62	
	Lokandi	1869	5,122	5,722	...	5,722	37	
	Deoban	1872	5 765	5,815	86	5,729	122	
	Ekra	1872	2,670	2,670	...	2,670		
	Konain	1872	3,776	3,780	...	3,780	64	
	Karamba	1872	3,878	3,878	70	3,808		
	Bánwár Range.							
	Biknár	1872	4,600	4,600	...	4,600	129	
	Dhárigád	1872	4,139	4,400	40	4,360		

Jaunsár	Dharmigád					1872	1,513	1,520	250	1,270	11
	Bástil					1875	1,269	1,519	7	1,512	75
	Kanjáwár					1884	100	100	...	100	5
		Deota Range.									
	Khunigád					1879-84	3,516	4,687	64	4,593	297
	Molta										
	Chátra										
	Hasol										
		Deogarh Range.									
	Deogarh Forests					1872-75 1886-87	3,142	4,742	...	4,742	191
	Raeugarh					1880	4,552	5,002	200	4,802	39
	Dádi					1880	1 630	1 630	...	1,630	
					Total	...	48,732	53,006	725	52,373	1,054
					Grand Total	...	267,481	344,565	37,296	307,179	7,668
		Leased Forests in Native States.									
Dehra Dún	Tehri Forests					...	2,240	2,240	...	2,240	82
		Deota Range.									
	Deota					1879-84	4,937	4,937	...	4 937	322
	Bámsu						2,722	2,328	...	2,328	
	Surán						1,014	1,014	...	1,014	
	Dátmir					1872	2,560	2,560	...	2,560	13
	Naintwár					1865	2,959	3 000	...	3,000	27
	Shálra					1885		7,500	...	7,500	
	Noranú					1855		1,500	...	1,500	
							21,500				20
Jaunsár		*Kotigád Range.*									
	Chánsil					1885		13,000	...	13,000	
	Kotigád					1879	3 968	3,968	50	3 918	52
	Lambatách					1879	2,883	2,883	110	2,773	177
		Deogarh Range.									
	Bashár					1881	1,418	1,430	150	1,280	33
					Total	...	43,553	44,115	310	43,805	613
					Grand Total of Leased Forests	...	45,793	46,355	310	46,045	725
					Grand Total of Protected Forests	...	313,274	390,920	37,606	353,224	8,388

ANNUAL FORM No. 52—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Area of Plantations, 1886-87.

Division.	Description.	Area in Acres. On 1st April, 1885.	Added during the year.	Excluded during the year.	Area on 31st March, 1886.	Receipts. Of the year.	Charges. Of the year.	Total charges up to 31st March, 1887.	Remarks.
	Regular Plantations.	Acres.	Acres.	Acres.	Acres	Rs.	Rs.	Rs.	
Saháranpur—*Eastern range.*	Pathri (chiefly sissu)	80½	...	...	80½	...	83	(a) 1,056	(a) Not inclusive of original cost whilst under Canal Foundry.
	Total, Regular Plantations ...	80½	...	...	80½	...	83	1,056	
	Cultural Operations.								
Dehra Dún—*Central range.*	Phandowála (sál)	7½	..	...	7½	...	34	848	
	Ditto (tún and paper mulberry) ...	...	...	...	...	...	256		Nursery.
	Rámgarh (sál, bamboos, &c.)	30	...	...	30	...	127		
	Nágsidh (sál, &c.)	45	...	...	45	...	264	4,949	
Dehra Dún—*Eastern range.*	Johra (bamboos) and Pardani nursery ...	...	...	...	...	...	68		
	Miscellaneous	...	(b)	...	...	...	322		(b) The bamboos are planted out in the natural forest.
	Total ...	82½	...	...	82½	...	1,071	5,797	
Saháranpur—*Eastern range.*	Kálushábid (bamboos, &c.)	13½	...	...	13½	...	119	1,190	
Saháranpur—*Central range.*	Tira (miscellaneous)	1	...	...	1	...	171	624	
	Rasulpur (khair and sissu)	5	...	5	...	...	...	260	Burnt.
	Ganjarbau (chiefly sál)	7½	1	...	8½	...	69	794	
	Bám (sál)	8½	...	...	8½	...	22	704	
	Sendhli (sál)	8	...	...	8	...	86	540	
	Gúj (sissu)	...	...	...	...	...	27	77	
Saháranpur—*Western range.*	Dhaula, (sál) nursery	...	...	...	...	...	9	9	
	Cost of abandoned plantations	...	...	...	...	...	...	341	
	Total ...	43½	1	5	39½	...	503	4,539	

Jaunsár—*Deoban range*,	Korwa (rai and kail)	15	..	15	...	...	...	180	* Areas corrected by re-measurement.
	Mohna (deodar, kail, rai and karshu)	175	...	...	175	...	29	3,488	
	Matkáogra (moru)	51	*6	...	57	...	...	744	
	Hajáwa (rai sowings)	...	*3	...	3	...	3	15	
	Thona (rai, kail and karshu)	4	...	...	4	...	1	733	
	Kanjátra (rai and morinda)	21	...	...	22	} ...	61	504	†
	Do. (deodar and kail)	8	*1	...	9				
	Kanasár (deodar and kail)	139	...	...	139	...	...	1,656	
	Bodnár (chiefly deodar)	373	*2	...	375		29	4,517	
	konain (deodar)	122	...	...	122	...	3	2,465	
	Jádi (box)	...	...	...	..	...	...	4	
Jaunsár—*Bawár range*,	Kathián (deodar)	229	...	...	229	...	48	3,065	
	Mundali ditto	...	...	...	...	...	...	7	
	Páftal ditto	43	...	...	43	...	98	926	
Jaunsár—*Deota range*,	Jaurási ditto	...	*10	...	10	...	22	215	
	Dásmir (box)	2	...	...	2	...	1	57	
	Dampti (deodar and kail)	100	...	...	100	...	26	939	Shown as Lambatiéh in last year.
Jaunsár—*Kotigád range*,	Goria (deodar)	10	...	...	10	...	...	94	
	Chakoria (do.)	25	*5	...	30	...	...	281	
Jaunsár—*Deogar range*,	Morách	13	...	...	13	...	16	207	
	Chéchpur (deodar)	...	...	..	...	...	24	80	Nursery.
Cantonment *Blocks*	Lurli (deodar, &c.)	54	*11	...	65	...	43	1,244	
	Suitoli (ditto)	15	7*	...	22	...	59	451	
	Total	1,400	45	15	1,430	...	461	21,852	
	Total of cultural operations	1,526	46	20	1,552	...	2,035	32,188	

ANNUAL FORM No. 52A.—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Area of cultural operations, 1886-87.

Division.	Discription.	Area in acres: On 1st April, 1886.	Added during the year.	Excluded during the year.	Area on 31st March, 1887.	Receipts. Of the year.	Charges. Of the year.	Total charges up to 31st March, 1887.	Remarks.
	Removal of Inferior Species.								
Dehra Dún Division.	*Climber cutting.*								
Central range ...	Bulawála ...	2,880	...	...	2,880	...	...		253
	Rámgarh ...	6,332	...	...	6,332	...	...		409
	Tháno ...	5,912	...	...	5,912	...	...		327
Eastern range ...	Bahera ...	970	1,600	...	2,570	...	63		169
Malhán range ...	Chandrabani ...	5,008	1,200	...	6,208	...	89		573
	Total ...	21,102	2,800	...	23,902	...	152		1,731
Sahárunpur Division.	Ganjarban ...	1,600	...	...	1,600	...	...		64
	Rásulpur ...								
	Total ...	1,600	...	...	1,600	...	...		64
Dehra Dún.	Total for the circle ...	22,702	2,800	...	25,502	...	152		1,795
	Ringing kukat trees over sál and cutting back injured sál.								
Central range ...	Bulawála ...	1,707	...	...	1,707	...	...		611
	Rámgarh ...	490	435	...	925	...	715		320
	Chandrabani ...	...	708	...	708	...	571		571
	Total ...	2,197	1,143	...	3,340	...	1,286		2,022
Jaunsár Division.	*Ringing kail, &c., above deodar advance growth.*								
Báwár range ...	Kathián ...	260	20	...	280	...	12		
Kotigád range ...	Thanwár ...	510	...	...	510	...	...		226
	Chakora ...	227	...	...	227	...	...		
	Lohdeó ...	205	70	...	275	...	...		
	Gerasma ...	105	60	...	165	...	11		
	Total ...	1,307	150	...	1,457	...	23		226
	Ringing firs, &c., to encourage deodar reproduction.								
Kotigád range ...	Banárpáni ...	140	...	...	140	...	...		
	Chakora ...	130	...	...	130	...	...		61
Deota range ...	Párfil ...	200	...	...	200	...	...		
	Temple ...	95	...	...	95	...	...		
	Kánga ...	30	20	...	50	...	33		
	Patángni ...	70	...	...	70	...	...		
	Total ...	665	20	...	685	...	33		62
	Total for the Circle ...	4,169	1,313	...	5,482	...	1,342		2,290

FORM No 53—(Suggested).

Forest Department, School Circle, North-Western Provinces and Oudh.

Trees felled or girdled by Government agency during the year 1886-87. (*Selection fellings.*)

Division.	Trees felled. Description	Number	Remarks
	Trees felled.		
Dehra Dún ...	Sál	1,569	
	Sain	2	
	Miscellaneous	328	
	Total, Dehra Dún Division ...	1,899	
Saháranpur ...	*Nil*	*Nil.*	
Jaunsár ...	Deodár	982	
	Tún	55	
	Kail	188	
	Chír (P. longifolia)	173	
	Rai	150	
	Fir	277	
	Sissu	1	
	Oak	737	
	Miscellaneous	10	
	Total, Jaunsár Division ...	2,573	
	Grand Total ...	4,472	
	Abstract for the Circle—		
	Sál	1,569	
	Sain...	2	
	Deodár	982	
	Tún	55	
	Fir and pine	788	
	Sissu	1	
	Oak	737	
	Miscellaneous	338	
	Total, Selection fellings ...	4,472	
	Trees girdled.		
Dehra Dún ...	Miscellaneous	13,356	
	Total ...	13,356	

FORM No. 54.

Forest Department, School Circle, North-Western Provinces and Oudh.

Outturn of timber and firewood during the year 1886-87.

Division.	Description of material.	Outturn in cubic feet.							Remarks.
		Selection fellings.	Clearances.	Thinnings.	Total.	Removed by Government Agency.	Removed by Purchasers.	Removed by Free grants.	Removed by Right-holder.	
				I.—Reserved Forests.						
Dehra Dún.	Timber of sorts ... ... c. ft.	16,446	86,822	122,993	226,261*	55,076	166,944	291	...	* 3,959 cubic feet lost by conversion.
	Ditto (drift) ... ... ,,	...	27,675	...	27,675	8,435	19,240	...	...	
	Firewood ... ... ,,	...	949,990	...	949,990	28,178	415,412	506,400	...	
	Total { Timber ... / Firewood ...	16,446	114,497 / 949,990	122,993	253,936 / 949,990	63,511 / 28,178	186,184 / 415,412	291 / 506,400	... / ...	
Saharanpur.	Sál timber ... ... c. ft.	...	...	198	198	198	...	...	...	
	Do poles and saplings ... ,,	...	...	2,463	2,463	2,463	...	...	...	
	Chir trees ... ,,	274	...	...	274	...	274	...	...	
	Lease of fallen dry wood ... ,,	...	...	4,240	4,240	...	4,240	...	...	
	Miscellaneous poles, &c., ... ,,	...	...	2,408	2,408	...	2,408	...	...	
	Firewood ... ,,	...	...	13,965	13,965	...	13,965	...	...	
	Ditto (leased) ... ,,	...	...	120,575	120,575	7,350	113,225	...	...	
	Total ... { Timber ... / Firewood ...	274	... / ...	9,309	9,583 / 134,540	2,661 / 7,350	6,922 / 127,190	...	... / ...	
Jaunsár.	Deodár trees ... ... c.ft.	27,300	...	...	27,300	...	2,200	15,300	...	9,800 cubic feet unremoved.
	Do. M. G. sleepers ... ,,	203,608	...	...	203,608	203,608	...	...	...	72,096 cubic feet purchased.
	Do. B. G. ditto ... ... ,,	210	...	...	210	210	...	...	...	
	Do. scantlings ... ... ,,	7,868	...	...	7,868	2,162	53	5,353	...	
	Chir trees ... ... ,,	152,400	...	...	152,400	...	131,040	21,360	...	
	Do. sleepers ... ... ,,	4,648	...	...	4,648	4,648	...	...	...	
	Do. scantlings ... ... ,,	6,650	...	...	6,650	6,650	...	...	...	
	Fir and pine trees ... ... ,,	50,977	...	...	50,977	...	320	28,320	...	14,337 cubic feet not removed.
	Do. scantlings ... ... ,,	3,785	...	...	3,785	3,785	...	...	...	
	Oak trees ... ... ,,	3,690	...	...	3,690	...	540	2,910	...	240 cubic feet unremoved.
	Oak scantlings ... ... ,,	558	...	...	558	558	...	...	...	
	Sál trees ... ... ,,	210	...	...	210	...	...	210	...	
	,, ballis ... ... ,,	33	...	...	33	33	...	...	...	
	Sissu trees ... ... ,,	50	...	...	50	...	50	...	...	
	Tún beams, &c., ... ,,	868	...	...	868	868	...	...	...	
	Boxwood ... ... ,,	14	...	...	14	14	...	...	...	
	Miscellaneous trees ... ... ,,	410	...	...	410	...	35	375	...	
	Ditto scantlings ... ... ,,	608	...	...	608	45	408	155	...	
	Drift wood ... ... ,,	48	...	...	48	...	48	...	...	
	Firewood Oak ... ... ,,	32,426	...	12,031	44,517	43,815	702	...	...	
	Ditto Fir ... ... ,,	102 350	...	...	102,350	1,02,350	...	...	...	
	Ditto Miscellaneous ... ,,	610	14,60,000	...	14,60 610	...	610	14,60,000	...	
	Ditto (leased) ... ... ,,	...	...	9,900	9,900	...	9,900	...	...	
	Ditto for torches (loads) ... ,,	2,640	...	...	2,640	...	...	2,640	...	
	Ditto Charcoal ... ... ,,	11,420	...	1,600	13,020	8,274	4,746	...	...	
	Total { Timber ... / Firewood ...	463,935 / 149,506	... / 14,60,000	... / 23,531	463,935 / 16,33,037	222,881 / 154.439	134,694 / 15,958	81 983 / 1,462640	... / ...	24,377 cubic feet unremoved.
	Grand Total { Timber ... / Firewood ...	480,655 / 149,506	114,497 / 24,09,990	132,302 / 158,071	727,454 / 27,17,567	289,058 / 189.967	327,800 / 558,560	82,274 / 19,69,040	... / ...	

Note.—There are no protected or district forests in this circle.

ANNUAL FORM No. 55—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Outturn of Minor Forest produce during the year 1886-87.

Division	Description of produce.	Produce removed or utilized.										Remarks.
		By Government Agency		*By purchasers.*		*By Free grants.*		*By Right holders.*		*Total.*		
		Quantity.	Value	Quantity.	Value.	Quantity	Value	Quantity	Value.	Quantity	Value.	
	I—Reserved Forests.											
Dehra Dún.	Bamboos No.	713	15	6,56,170	4,395	...	...	...	...	6,56,883	4,410	
	Bansies ,,	...	...	61,150	76	...	...	...	...	61,150	76	
	Total Bamboos	713	15	7,17,320	4,471	...	...	...	...	7,18,033	4,486	
	Grazing (animals)	..	...	30,431	8,224	* 6,061	824	...	...	36,495	9 048	* Privileged villages.
	Fodder grass (headloads)	...	...	1 932	127	...	...	...	...	1,932	127	
	Total	...	...	...	* 8,351	..	824	...	...	...	9,175	
	Lease of limestone	...	...	...	1,886	...	...	...	...	...	1,886	* Includes Rs 405 outstanding at the close of the year.
	Ditto hides	...	...	...	201	...	...	...	...	.	201	
	Ditto horns	...	..	..	82	...	...	...	...	...	82	
	Ditto sem a gum	...	...	...	1,030	...	...	..	...	..	1,030	
	Minor produce (leased)	.	...	...	2,094	...	...	...	...	..	2,094	
	Ditto (grasses, &c)	...	...	...	1,190	...	...	...	...	..	1,190	
	Total	...	...	...	(a) 6,483	...	...	...	...	...	6,483	(a) Includes Rs 388 outstanding at the close of the year
	Total, Dehra Dún Division	...	...	15	...	19,305	...	824	...	..	..	20,144
Saharanpur.	Bamboos No	...	...	...	88,400	517	...	...	...	88 400	517	
	Ditto (lease) ,,	...	...	...	15,24,800	9,530	...	...	...	15,24,800	9,530	
	Total Bamboos	...	...	...	16 13,200	10,047	.	...	...	16,13,200	10,047	
	Grazing (Animals) No.	...	...	...	26 178	5,'89	...	...	...	26,178	5,589	
	Ditto (lease of Rasúmri fair)	..	...	...	4,000	1 000	...	...	...	4,000	1,000	
	Ditto (Collection through Collector)	..	...	...	36,579	9,012	* 4,663	644	...	41,242	9,656	* Privileged villages.
	Fodder grass	...	...	...	...	84	...	...	...	...	84	
	Total grazing	...	..	...	66,757	15,885	4,663	644	...	71,420	16,329	Rupees 86 of previous year's outstandings realised has not been included, Rs 6 [illegible] outstanding at the close of the year.

ANNUAL FORM No 55—(PRESCRIBED)—*concluded.*

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Outturn of Minor Forest Produce during the year 1886 87

Division.	Description of produce.	PRODUCE REMOVED OR UTILIZED										Remarks
		By Government Agency		*By purchasers*		*By Free grants.*		*By Right holders.*		*Total.*		
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	
Saharanpur.	Grass	...	...	...	277	...	...	...	...	...	277	
	Leaves	...	...	...	500	...	...	...	...	...	500	
	Stones	...	...	...	786	...	...	...	...	...	786	
	Fruits	...	...	...	15	...	...	...	...	...	15	
	Gum	...	...	...	5	...	...	...	...	...	5	
	Fencing thorns	...	...	...	33	...	...	...	...	...	33	
	Kanda and saral	...	...	...	6	...	...	...	...	...	6	
	Mala branches	...	...	...	53	...	...	...	...	...	53	
	Miscellaneous	...	...	...	87	...	...	...	...	...	87	
	Lease of minor produce	...	...	...	8,399	...	...	...	...	...	8,399	
	Total	...	...	...	10,161	...	...	...	...	...	10 161	
	Total Saharanpur Division	...	...	...	35,893	...	644	...	...	...	36,537	
Jaunsar	Ringals ... No	...	...	1,60,000	100	500	1	...	...	1,60,500	101	
	Bamboos ... ,,	...	...	800	10	...	...	...	...	800	10	
	Total	...	...	1,60 800	110	500	1	...	...	1,61 3 0	111	
	Grazing (Animals) No.	...	...	6,820	1,380	32,249	4,353	...	...	39,069	5 7 3	
	Ditto (Lease) ...	...	...	...	180	...	...	...	...	...	(b) 180	(b) Not realized during the year
	Fodder grass (loads, &c) ...	559	6	3 8	8	...	2 000	...	...	...	2 014	
	Total grazing ...	...	6		1,568		6,353	...		...	7 92	
	Fruits	...	...	...	11	...	...	...	...	...	11	
	Minor produce (leased) ...	...	...	...	210	...	500	...	...	...	710	
	Total minor produce				221	...	500			...	721	
	Total Jaunsar Division ...	...	6	...	1 899	...	6,853	...	...		8 759	
The Circle.	Bamboos ... No.	713	15	4,91,320	14,628	500	1	...		21.92 033	14 644	
	Grazing and fodder grass ,,	...	6	...	25,6.4	...	7,821	...	...		33 431	
	Minor produce ... ,,	...	...	...	14,666		5 10	...			17,165	
	Grand Total ...	...	21	...	57,087		8,322	...			65 440	

ANNUAL FORM No. 56—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Account of timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally during the year 1886-87.

	Particulars.	No or quantity.	Cubic feet.	Total of each head. No or quantity.	Total of each head. Cubic feet
	Balance in hand on 1st April, 1886				
Dehra Dún ...	Sál logs	1	14		
	,, scantlings	1	1		
	Sain do	8	12		
	Chir do.	1	6		
	Miscellaneous scantlings ...	75	98		
	Ditto pieces ...	1	1		
	Ditto poles ...	4	19		
				91	151
	Firewood	...	12,162		12,162
Saháranpur ...	Sál timber	107	671		
	,, poles	2,485	10 289		
	,, saplings	1,939	3,985	4,471	14,945
Jaunsár ...	Deodár scantlings ...	5 627	9,680		
	Fir and pine do	1,325	4,763		
	M. G. deodár sleepers ...	20,401	29,437		
	Chir shikanjas	200	1,361		
	Tún do.	294	1,189		
	Oak do.	10	40		
	Chir sleepers	35	145		
	Broad gauge deodar sleepers...	3,510	12,227		
	Oak pieces	6	6		
	B G chir sleepers ...	38	144		
	Chir karris	23	44	31,471	59,286
	Firewood, oak	...	11,570		
	Do.. Fir	...	36,910	...	48,480
	Charcoal	-	475	...	475
Total balance,	Timber	...	...	36,033	74,382
	Firewood	...	...	...	60,642
	Charcoal	...	...	...	475
	Received from the Forests as Depôts.				
	Sál timber	196	347		
	,, poles, ballas, ballis, &c.	33 / 2,015	33 / 3,760		
	Metre gauge deodár sleepers ...	132,189	203,594		
	Ditto pieces	26	14		
	Broad gauge deodár sleepers ...	9	37		
	Ditto ditto pieces ...	61	173		

	Particulars	No. or quantity.	Cubic feet.	Total of each head. No or quantity.	Total of each head. Cubic feet
	Removed by purchasers from depôts.				
	Sál timber	225	847		
	,, poles	2,516	10,449		
	,, saplings	2,060	4,465		
	,, Ballas, ballis, &c.	210	597		
	Metre Gauge Deodár sleepers	106,251	162,136		
	Ditto ditto pieces	1	1		
	Broad ditto sleepers	2,749	9,549		
	Ditto ditto pieces	67	201		
	Deodár scantlings	2 267	2,841		
	Fir and pine scantlings, &c.	2,416	2,572		
	Chir karris and sleepers	240	4 3		
	Boxwood	29	14		
	Sissu logs	51	308		
	Miscellaneous ballas, ballis, tors, &c. ...	14,169	26,635		
	Tarans	1,229	1,229	134,481	221,867
	Firewood, Oak	-	24 822		
	Ditto, Fir	...	94,180	...	119,992
	Charcoal	...	386	...	386
	Sold locally.				
	Firewood, Oak	...	2 150		
	Ditto, Miscellaneous	...	7,350		
	Ditto, Headloads	142½	297	...	9,827
	Charcoal	...	2 721	.	2,720
	Fodder grass (púlas and loads)	517½	...	5 7½	
	Drift timber sold locally.				
	Sál logs	1	14		-
	,, scantlings...	9	33		
	Sain ditto	8	12		
	Chir ditto	1	6		
	Miscellaneous	278	453		
	Ditto logs and pieces	906	6,565		
	Ditto tors and poles	460	611		
	Ditto saplings	218	278		
	Tarans	252	252	2,073	8,224
	Firewood (miscellaneous)	...	33 104	...	33,104
	Bamboos	270	...	270	

ANNUAL FORM No. 56— PRESCRIBED)

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Account of timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally during the year 1886-87—(concluded).

Particulars.	No or quantity	Cubic feet	Total of each head. No or quantity	Total of each head. Cubic feet
Received from the Forests in Depôts—(concluded).				
Deodár scantlings	15	12		
	2 697	2,16		
Chir shikanjas	314	2 219		
Do scantlings	2 807	4 447		
Broad gauge chir sleepers	1,274	4 248		
Fir and pine scantlings, &c.	3 694	3,795		
Tún, &c., shikanjas	219	568		
Oak ditto	109	475		
Do. scantlings	112	87		
Bezwood	29	14		
Sissu logs	51	308		
Miscellaneous scantlings	396	33		
Ditto ballis, ballas and tors	29,182	45,888		
Sal tarans	2,600	2,600	170,324	274,984
Firewood, oak	...	41,[illegible]		
Ditto, fir	...	102,350	...	143,563
Charcoal	...	1,417	...	1,417
Departmental collection of Drift timber from the Ganges.				
Sál scantlings	8	32		
Miscellaneous	246	431		
Ditto logs and pieces	944	6,640		
Ditto tor and poles	396	692		
Ditto saplings	235	304		
Tarans	39	303	2,913	8 435
Firewood	...	28,178	...	28,178
Bamboos No	713	...	713	
Received from the Forests and used by the Department				
Sál trees	1,569	5,088		
Sain do.	2	12		
Miscellaneous	328	534	1,899	5,634

Particulars	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
Lost or written off				
Metre gauge deodár sleepers	3,457	5 244	3 457	5,244
Firewood, oak	...	260		
Ditto miscellaneous	—	252	...	512
Used by Department.				
Sál trees	1,569	5 088		
,, timber	7	18		
,, saplings and poles	121	168		
Sain ditto	2	12		
Miscellaneous	326	5 4		
Saplings and tarans	158	167		
Deodár scantlings	2,321	2,959		
Do. metre gauge sleepers	488	693		
Do. broad ditto	243	960		
Chir metre gauge sleepers	9	35		
Do. scantlings	1,534	4,713		
Fir and pine scantlings	935	876		
Pine shikanjas	232	935		
Oak scantlings	122	123		
Metre gauge deodár pieces	1	..	8,072	18,301
Bamboos	443	...	443	...
Firewood, oak	...	590	...	590
Charcoal	...	67	...	67
BALANCE AT CLOSE OF THE YEAR.				
Dehra Dún Division.				
Miscellaneous ballis, ballas, &c.	8,013	19,255		
Tarans	1,271	1,271		
Drift logs and pieces	29	116		
Miscellaneous scantlings	41	79	9,356	20,719
Firewood miscellaneous	...	6,964	...	6,964
Saháranpur Division.				
Sál timber	71	153		
,, poles	1,042	1,457		
,, saplings	430	578	1,543	2,188

Received from the Forests and sold locally.

Firewood (miscellaneous)		7,350	
Ditto oak		2,180	
Ditto headloads	211½	423	9,953
Charcoal		2,720	2,720
Fodder, grass, pulse, &c.	559½		559½

Grand Total,	Timber	2,10,468	3,63,435				
	Firewood		2,41,913				
	Ditto (headloads)	211½					
	Charcoal		4,612				
	Bamboos	713					
	Fodder grass	559½					

Jaunsar Division.

Deodár scantlings	3,741	7,264			
Metre gauge deodar sleepers	42,565	65,139			
Broad ditto	286	1,168			
B. G. and M. G pieces	288	701			
Chir broad gauge sleepers	1,284	4,686			
Chir metre ditto	48	192			
Shikanjas and beams	949	4 620			
Fir and pine scantlings	1,892	3,043			
Oak scantlings	6	6			
Bal ballis	1	7			
Sál ballis	33	33			
Miscellaneous	396	33	51,467	86,892	
Firewood, oak		27,111			
Ditto, fir		45,100		72,211	
Charcoal		1,439		1,439	
Firewood (loads)	63	126	63	126	
Fodder grass (loads)	42		42		
Total balance, Timber			62,386	109,799	
Total balance, Firewood				72,195	
Total balance, Ditto (loads)			63	126	
Total balance, Charcoal				1,439	
Total balance, Fodder, grass (loads)			42		

Grand Total,	Timber	210,468	363,435		
	Firewood		241,913		
	Ditto (headloads)	211½	423		
	Charcoal		4,612		
	Bamboos	713			
	Fodder grass (loads)	559½			

FORM No. 57.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, SCHOOL CIRCLE.

Abstract showing the value of Live and Dead Stock for the year 1886-87.

Description of Live and Dead Stock.	*On hand at commencement of the year.*		*On hand at close of the year.*		*Difference in value.*	
	Number.	Value.	Number.	Value.	In favor of the year.	Against the year.
		Rs.		Rs.	Rs.	Rs.
DIRECTION.						
Office furniture	36	334	37	354	20	
Tents	4	521	4	500	...	21
Buildings and building materials	8	21,800	11	36,443	14,643	
Miscellaneous	16	77	16	77	...	
Elephants	1	2,000	1	2,000	...	
Total	...	24,732	...	39,374	14,663	21
DEHRA DÚN DIVISION.						
Surveying and other instruments	83	277	82	238	...	39
Tools	1,449	635	1,799	1,174	539	
Office furniture	280	782	341	733	...	49
Tents	14	555	15	476	121	
Buildings and building materials	90	14,000	98	16,980	2,980	
Miscellaneous	368	546	464	634	88	
Elephants	1	2,600	1	2,600	...	
Total	...	19,395	...	23,035	3,728	88
SAHÁRANPUR DIVISION.						
Surveying and other instruments	10	51	14	71	20	
Machinery	18	44	18	44	...	
Tools	732	259	732	259	...	
Office furniture	188	751	137	747	...	4
Tents	5	348	5	344	...	
Building and building materials	26	5,923	27	6,278	355	
Miscellaneous	298	778	435	976	198	
Elephants	1	1,700	1	1,700	...	
Total	...	9,854	...	10,423	573	4
JAUNSÁR DIVISION.						
Surveying and other instruments	46	366	41	360	..	6
Machinery	11	110	13	97	...	13
Tools	2,469	2,954	2,407	2,867	...	87
Office furniture	47	344	50	408	64	
Tents	6	150	6	215	65	
Buildings	301	30,654	359	33,468	2,814	
Miscellaneous	410	402	478	427	25	
Total	...	34,980	...	37,842	2,968	106
GRAND TOTAL	...	88,961	...	1,10,674	21,932	219

Net difference in favor of the year Rs. 21,713.

FORM No. 57—(SUGGESTED).

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Abstract showing the value of timber and other produce at Sale Depôts for the year 1886-87.

Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year			Difference in value.	
	Number.	Cubic feet	Value.	Number.	Cubic feet.	Value.	In favor of the year.	Against the year
Dehra Dún Division.			Rs.			Rs.	Rs	Rs
Drift sál logs	1	14	7	...	...	...	...	7
Do. miscellaneous pieces and logs ...	1	1	1	29	116	15	14	
Do. sál scantlings	1	1	1	...	...	...	...	1
Do. sain do	8	12	3	...	...	...	...	3
Do. chír do.	1	6	2	...	...	...	...	2
Do. miscellaneous scantlings ...	75	98	19	48	79	12	...	7
Do. tors and poles	4	19	8	...	...	...	...	8
Kukat ballies, ballas &c.	...	...	...	8,018	19,253	5,676	5,676	
Do. tarans	...	...	...	1,271	1,271	127	127	
Firewood	...	12,162	1,216	...	6 984	698	...	518
Total ...	...	...	1,257	...	...	6,528	5,817	546
Sahdranpur Division.								
Sál timber	107	671	252	71	153	58	...	194
„ poles	2,425	10,289	3,852	1,042	1,457	546	...	3,306
„ saplings	1,939	3,985	1,493	430	578	217	...	1,276
Total ...	...	...	5,597	...	...	821	...	4,776
JAUNSÁR DIVISION.								
At Delhi Depôt.								
Metre gauge deodár sleepers ..	4,964	6,619	8,687	...	...	...	...	8,687
In Forest and other depôts.								
Broad gauge deodár sleepers ...	3,510	12,237	7,020	286	1,168	576	...	6,444
Metre ditto ...	15,437	23,018	21,352	42,565	65,139	59,527	37,175	
Deodár scantlings	5,627	9,690	11,469	3,741	7,264	7,482	...	3,987
Metre gauge chír sleepers ...	35	145	27	46	192	35	8	
Broad ditto	38	144	33	1,284	4 686	1,124	1 091	
Pine and fir scantlings	1,325	4,763	1,912	941	1,164	823	...	1,089
Do. shikanjas	200	1,381	50	84	581	21	...	29
Túu shikanjas	296	1,199	74	283	1,132	71		3
Miscellaneous shikanjas	10	40	2	582	2,907	145	143	
Chír karis	23	44	12	951	1,879	476	464	
M G. and B G. sleepers (pieces) ...	...	...	...	288	701	175	175	
Miscellaneous	...	...	...	396	33	25	25	
Oak pieces	6	6	...	6	6	...	...	
Rai ballis	...	...	...	1	7	1	1	
Sál „	...	...	...	33	33	2	2	
Oak and fir firewood	...	48,480	9,312	...	72,211	13,720	4,408	
Charcoal	...	475	118	...	1,439	275	157	
Firewood loads...	..	...	...	63	126	4	4	
Fodder grass	...	...	...	42	...	1	1	
Total ...	...	...	60,068	...	.	83,483	43,654	20,239
Grand Total ...	...	...	66,922	...	...	90,832	49,471	25,561

Net difference in favor of the year, Rs. 23,910.

ANNUAL FORM No. 58—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Summary of Revenue of the different Divisions, 1886-87.

Budget Heads Receipts.	Direction.	Debra Dún Division.	Sahárunpur Division.	Jaunsár Division.	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other produce removed from the Forests by Government Agency.					
(a) Timber	...	4,071 7 2	2 406 2 5	1.79,615 8 10	1,86,093 2 5
(b) Firewood and charcoal	...	...	1,455 0 0	24,091 14 10	25,546 14 10
(c) Bamboos	...	...	...	...	...
(d) Sandal-wood	...	...	...	...	...
(e) Grass and other minor produce	...	...	...	5 10 0	5 10 0
II.—Timber and other produce removed from the Forests by consumers or purchasers.					
(a) Timber	...	36,501 0 7	1,896 7 9	6 836 3 11	45,163 12 3
(b) Firewood and charcoal	...	8,074 12 6	3,667 2 6	225 10 0	11,967 9 6
(c) Bamboos	...	4,471 0 6	10,047 5 3	110 0 0	14,628 5 9
(d) Grazing and fodder grass	...	7,945 2 10	10,417 15 10	1,387 8 6	19,750 11 2
(e) Other minor produce	...	6,428 12 0	10,025 11 3	221 4 0	16,675 11 3
III.—Confiscated drift and waif wood	...	6,725 14 5	...	13 4 0	6,739 2 5
IV.—Revenue from Forests not managed by Government.					
(a) Duty on Foreign Timber and other Forest produce	...	...	...	8,611 8 2	8,611 8 2
(b) Revenue from shared and private Forests	...	...	...	...	...
V.—Miscellaneous—					
(a) Fines and forfeitures	...	...	31 12 0	...	31 12 0
(b) Refunds	40 4 0	2 4 2	. .	101 10 2	164 2 4
(c) Other sources	665 10 0	415 15 8	49 7 10	349 4 9	1,480 6 3
Total, Receipts	725 14 0	74,636 5 10	39,927 0 10	2,31,569 7 2	3,36,858 11 10

Calcutta:
The 7th June, 1887.

JAS. TAYLER,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 58—(PRESCRIBED).

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Summary of Expenditure of the different Divisions, 1886-87.

BUDGET HEADS. A.—CONSERVANCY AND WORKS.	Direction.	Dehra Dún Division.	Saháranpur Division.	Jaunsár Division.	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other produce removed from the Forests by Government Agency—					
(a) Timber	...	6,030 5 7	2,078 14 10	1,04,255 7 0	1,12,364 11 5
(b) Firewood and Charcoal	...	414 10 2	...	15,122 11 2	15,537 5 4
(c) Bamboos	...	...	...	...	...
(d) Sandal-wood	...	...	...	...	...
(e) Grass and other minor produce	...	...	...	...	...
II.—Timber and other produce removed from the Forests by Consumers or purchasers—	...	...	...	24 5 3	24 5 3
III.—Confiscated drift and waif wood—	...	2,713 4 5	3,234 12 7	...	5,948 1 0
IV.—Revenue from Forests not managed by Government—	...	3,941 12 9	...	...	3,941 12 9
(a) Duty on foreign timber and other forest produce	...	...	...	...	...
(b) Revenue from shared and private forests	...	...	...	3,374 11 4	3,374 11 4
V.—Rent of leased Forests, and payments to shareholders in Forests managed by Government	...	...	...	...	...
VI.—Live Stock, Stores, Tools and Plant—	...	3,351 0 0	...	11,150 0 0	14,501 0 0
(a) Purchase of cattle	...	...	...	...	...
(b) Feed and keep of Cattle	...	...	...	...	...
(c) Stores, Tools and Plant	...	928 9 7	617 5 4	...	2,234 8 1
VII.—Communications and Buildings—		1,227 9 5	289 5 0	223 12 3	2,043 6 8
(a) Roads and bridges	...	5,217 8 5	447 5 2	1,684 9 1	7,640 12 10
(b) Buildings	...	4,095 8 11	1,032 8 4	4,234 4 5	10,222 2 3
(c) Other Works	...	...	23 12 0	329 14 3	728 15 6
VIII.—Demarcation, improvement and extension of Forests—					
(a) Demarcation	...	246 1 11	67 3 0	235 10 0	548 14 11
(b) Compensation for Land and Rights	...	262 6 8	...	...	262 6 8
(c) Surveys and Working plans	...	50 0 0	...	1,146 6 2	1,196 6 2
(d) Plantations	...	1,070 12 6	586 1 10	539 12 3	2,196 10 7
(e) Protection from fire	...	4,276 7 0	2,731 11 9	1,103 11 9	8,111 14 6
(f) Other works	...	2,014 8 0	60 12 2	1,408 15 2	3,484 3 4
IX.—Miscellaneous—					
(a) Refunds	...	50 0 0	...	2 8 0	52 8 0
(b) Law Charges	...	97 4 6	16 11 6	38 5 1	142 5 1
(c) Other Charges	1,230 9 9	981 1 2	181 10 3	460 0 6	2,853 5 8
Total, A.—Conservancy and Works	3,676 8 8	36,968 15 0	11,367 15 9	1,45,404 15 8	1,97,420 7 1

CALCUTTA:
The 7th June, 1887.

JAS TAYLER,
Assistant Comptroller-General (Forests).

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ANNUAL FORM No. 58—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Summary of Expenditure of the different Divisions, 1886 87.

Budget Heads.	Direction	Dehra Dun Division.	Saharanpur Division.	Jaunsár Division	Total.
B.—Establishments.	Rs. a p	Rs. a. p.	Rs. a. p	Rs a. p.	Rs a. p.
Brought forward Total A. Conservancy and Works	3,678 8 8	36,968 15 0	11,367 15 9	1,45,404 15 8	1,97 420 7 1
I.—Salaries—					
(a) Conservators	12,000 0 0	...	...	...	12,000 0 0
(b) Superior Officers	550 0 0	10,318 12 0	6,100 0 0	8,192 13 8	25 181 9 8
(c) Subordinate Forest and Depôt Establishments	...	5,857 10 11	2,837 0 6	5,201 10 0	13 896 5 5
(d) Office Establishments	2,362 8 4	1,825 13 2	1,315 2 3	1,805 0 0	7,308 7 9
(e) Deputation and Special Allowances	...	...	...	...	...
II.—Travelling Allowances—					
(a) Conservators	1,362 7 0	...	...	...	1,362 7 0
(b) Superior Officers	...	1,253 0 2	938 0 0	1,537 14 6	37 8 14 8
(c) Subordinate Forest and Depot Establishments	...	454 15 11	179 14 1	422 14 10	1,057 12 10
(d) Office Establishments	15 10 8	72 13 4	65 2 8	129 8 8	283 3 4
III.—Contingencies—					
(a) Stationery	3 2 0	56 3 3	32 4 0	54 12 0	146 5 3
(b) Carriage of Tents and Records	302 0 3	327 1 5	177 4 3	158 15 0	965 4 11
(c) Rents, Rates and Taxes	...	362 0 0	...	4 0 0	366 0 0
(d) Pay of Police Guards	107 4 0	...	...	...	107 4 0
(e) Official Postage	190 13 0	109 8 0	106 4 0	113 2 0	519 11 0
(f) Sundries	1,478 1 9	536 5 1	352 4 9	722 10 7	3,109 6 2
Total, B.—Establishments	18,271 15 0	21,214 3 3	12,093 4 6	18,343 5 3	69,922 12 0
Grand Total of Expenditure	21,950 7 8	58,183 2 3	23,461 4 3	1,63,748 4 11	2,67,343 3 1

Calcutta,
The 7th June, 1887.

JAS TAYLER,
Assistant Comptroller General (Forests).

ANNUAL FORM No. 59—(PRESCRIBED).

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

DR. *Account Current for the year* 1886-87. CR.

To		Rs. a. p.	Rs. a. p.	By		Rs. a. p	Rs. a p
	opening balance	...	...		expenditure as per Annual Form No. 58	..	2,67,841 3 1
„	Assessed Taxes—			„	Deposits	...	2,838 0 0
	Income Tax deductions from salary bills	...	1,168 9 6	„	Forest Cash Remittances (Local)—		
„	Revenue as per Annual Form No. 58	...	3,36,858 11 10		Remittances to Treasuries	1,42,241 4 3	
„	Service Funds—				Inter Divisional Tranafer	13,683 2 5	1,55,924 6 8
	Uncovenanted Service Family Pension Fund, Bengal ...	...	603 7 0	„	Advances Recoverable	...	1,43,699 7 10
„	Deposits	...	1,550 2 6	„	Account Current other Governments—		
„	Forest Cash Remittances (Local)—				Government of India	409 4 9	
	Forest Cheques drawn	2,70,660 1 7	...		Government of Panjáb	2,179 4 9	
„	Inter Divisional Transfer	9,612 8 2	2,80,302 9 9		Government of Bengal	62 0 0	2 650 9 6
„	Advances Recoverable	...	1,44,529 8 7	„	Inter Departmental Transfers—		
„	Account Current other Governments—		...		Public Works Department, State Railway—		
	Government of Bengal	45 0 0			Rajputana Malwa State Railway	1 60,408 11 6	
	Government of India	754 3 4	799 3 4		Public Works Department other Branches	11,471 13 10	
„	Inter-Departmental Transfers—				Military Department, Bengal	22,340 3 5	
	Public Works Department other branches	775 14 10			Civil Departments—		
„	Civil Departments—				Miscellaneous—		
	Mathematical Instrument Department	19 8 0			Travelling allowances to officers—		
	Survey of India Department	129 12 0	925 2 10		Attending examinations	60 0 0	1,94,280 12 3
	Total ...	...	7,66,736 7 4	Closing Balance		...	...
					Total ...	...	7,66,736 7 4

CALCUTTA:
The 7th June, 1887.

JAS. TAYLER,
Assistant Comptroller General (Forests).

ANNUAL FORM No 60—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Revenue received and Outstandings on account of Revenue during 1886-87.

Division.	Particulars.	Outstandings at commencement of year	Value of sales and other revenue during year.	Total.	Amount realised during year.	Balance due to the Department at end of year.
		Rs. a. p	Rs. a. p,	Rs. a. p.	Rs. a. p	Rs. a. p.
Direction ...	Sale proceeds of timber and other forest produce.	...	725 14 0	725 14 0	725 14 0	...
Dehra Dún ...	Ditto ditto ...	21,421 0 0	64,742 0 10	86,163 0 10	74,636 5 10	11,526 11 0
Saháranpur ..	Ditto ditto ...	2,760 12 4	44,022 3 6	46,782 15 10	39,927 0 10	6,855 15 0
Jaunsár ...	Ditto ditto ...	2,331 8 6	2,22,110 11 2	2,24,442 3 8	2,21,569 7 2	2,872 12 6
	Total ...	26,513 4 10	3,31,600 13 6	3,58,114 2 4	3,36,858 11 10	21,255 5 6

ANNUAL FORM No. 61—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Outstandings and Liabilities on account of Contractors and Disbursers for 1886-87.

Division.	*Department debtor.*			*Department creditor.*			*Balance due.*	
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To department (Outstanding).	By department (Liabilities.)
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs a. p.	Rs. a. p.	Rs. a p.
Direction ...	...	4,902 13 2	4,902 13 2	237 2 10	4,971 14 7	5,209 1 5	306 4 3	
Dehra Dún ...	...	35,488 7 8	35,488 7 8	1,973 5 4	35,289 9 11	37,262 15 3	1,775 12 10	1 5 3
Saháranpur ...	...	11,499 4 4	11,499 4 4	1,712 10 2	10,606 0 10	12,318 11 0	819 6 8	
Jaunsar ...	...	92,638 15 5	92,638 15 5	13,779 2 2	92,831 14 6	1,06,611 0 8	13,972 1 3	
Total ...		1,44,529 8 7	1,44,529 8 7	17,702 4 6	1,43 699 7 10	1,61,401 12 4	16,873 9 0	1 5 3

ANNUAL FORM No. 62—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Financial results of the year 1886-87.

Division	*Timber and other produce removed from the forests by Government Agency.*		*Other revenue.*		*Formation, protection and improvement of forests.*	*Total.*	
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.
	Rs	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Direction	...	7,317	726	7,317	7,317	726	21,951
Dehra Dún	4,071	6,445	70,865	10,187	41 551	74,936	58,183
Saháranpur	3,861	2,079	36,066	10,386	10,986	39,927	23,451
Jaunsár	2,03,713	1,97,648	17,857	5,041	31,059	2,21,570	1,63,748
Total ...	2,11,645	1,43,489	1,25,214	32,931	90,923	3,36,859	2,67,843

Calcutta
The 7th June, 1887.

Jas. Tayler,
Assistant Comptroller-General (Forests).

Appendix A.

Forest Department, School Circle, North-Western Provinces and Oudh.

Statement of trees felled during the year 1886 87.

Description of trees		Selection Fellings								Thinnings								Clearances.								Grand Total		Remarks.
		By Government Agency		By Contractors.		By Grantees		Total		By Government Agency		By Contractors		By Grantees		Total.		By Government Agency.		By Contractors		By Grantees		Total.				
		Number	Cubic feet	Number	Cubic feet	Number	Cubic feet	Number	Cubic feet	Number	Cubic feet	Number.	Cubic feet	Number	Cubic feet	Number.	Cubic feet	Number	Cubic feet	Number	Cubic feet	Number	Cubic feet	Number	Cubic feet	Number	Cubic feet	
Dehra Dún Division.	Sál	1,580	5,020	585	5 956	14	115	2,179	11,183	210	567	7 465	71,457			7 675	72 024									9,853	83 207	
	Sain	2	12	—	—	16	180	18	192	—	—	260	2 788			260	2,788									278	2,980	
	Sissu	—	—	109	4 571	—	—	109	4,571	51	308	—	—			51	308									160	4,879	
	Miscellaneous	328	834	—	—	3	28	331	860	23,201	48,848					23 201	48 848									23,732	49 6 8	
	Total {1886-87	1 899	5 834	763	10 531	32	291	2,694	16 444	23,633	47,723	7,725	76,245			31 357	1,23 993									34 071	1 39 439	
	Total {1885-86	2,923	43,4??	236	6 092	25	250	2 283	51 830	16 44?	29 717	19 989	74,758			??,1??	1,04,5 (									36,712	1,30,3 5	
Saháranpur Division	Sál	—	—	—	—	—	—	—	—	1,594	2 661	—	—			1,894	2 66.									1,994	2,661	
	Chir	—	—	43	274	—	—	43	274	—	—	—	—			—	—									43	27	
	Miscellaneous	—	—	—	—	—	—	—	—	—	—	1,895	2 408			1 895	2,408									1 895	2 4	
	Total {1886-87	—	—	43	274	—	—	43	274	1,894	2,661	1,895	2 408			3 789	5 069									3 831	5	
	Total {1885-86	—	—	—	—	—	—	—	—	5 988	16 981	—	—			5 988	16,981									5 988	16,981	
Jaunsar Division	Deodár	25	98 220	22	3,200	18	16 300	1 187	1 18,720	—	—					—	—									1 187	1 18 720	Deodar. Rs.
	Fir and pine	700	1 48 230	1,042	1 91,300	731	67,900	3,151	3 32 270	—	—					—	—									3,15	3 32,270	Balance of 1 85,560
	Tún	55	800	—	—	—	—	55	800	—	—					—	—									55	800	last year
	Sissu	1	15	2	50	—	—	3	75	—	—					—	—									3	75	During current year 99 200
	Oak	737	40 456	19	840	97	2 910	853	43 906	4,609	12,031					4,678	12 031									5,454	55 937	
	Sál	—	—	—	—	42	210	42	210	—	—					—	—									42	210	
	Miscellaneous	10	60	7	35	78	376	95	460	—	—					—	—									92	460	Total 2,01 700
	Total {1886-87	2 372	2 93,850	1 091	1 94,185	1,098	78,471	5,393	4,26 660	4 602	12,031	—	—			4 602	12 031									9 954	5 05,853	Shown in form 1 43 980
	Total {1885-86	2 465	2 11 051	2,702	2 15,087	1 425	1 00 780	6 592	5,26 968	88	2 650	—	—			98	2,650									6 677	5,29 592	No. 84.
Circle	Sál	1 603	5,060	585	5,982	58	356	2 226	11 398	2,104	9 268	7,465	71 457			9 569	74 725									11,795	86 123	Lost by conversion 67,710
	Sain	2	12	—	—	16	180	18	192	—	—	260	2 788	—	—	260	2,788	—	—	—	—	—	—	—	—	278	2 980	Sissu
	Tún	55	800	—	—	—	—	55	800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2??	3 915	*Fir and Pine.*
	Sissu	1	25	170	4,621	—	—	171	4 646	51	308	—	—	—	—	51	308	—	—	—	—	—	—	—	—	52	4 954	Lost by conversion 2 545
	Deodár	923	98,220	22	3,200	18	15,300	1,187	1,18 720	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1 187	1,18 720	Oak
	Fir and pine	700	1 48 230	1,042	1,91,300	731	67,900	3 193	3,28 544	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3 193	3 2 544	c. ft.
	Oak	737	40 456	19	840	97	2,910	853	43 906	4,609	12,031	—	—	—	—	4,678	12 031	—	—	—	—	—	—	—	—	5,454	55 937	Last year 360
	Miscellaneous	338	894	7	35	78	401	423	1 020	23 201	48 848	1,895	2 408			25 296	52 256									25,709	80,276	During current 53 527 year.
Grand Total	1886-87	4,472	2 66,463	2 488	1 44,960	1,193	78 786	8 068	5 10 208	30,148	68 548	9,620	77 646	—	—	39 768	1,46 193	—	—	—	—	—	—	—	—	47 836	6 56 402	
	1885-86	5,782	3 34 560	3 894	2 23 179	1,450	1,07 049	9 176	6,64 738	23 822	48 148	18,696	74,789	—	—	42,518	1 22 9 7									51,362	6 77 725	Shown in form 62 887
	1884-85	2,320	2 20 360	5,812	7 .,363	6,848	1,66 66	14,480	14 88 771	9,997	64,677	1 115	1,82,82	—	—	21 112	1 47 549	1 136	9,000	—	—	—	—	1 736	9 000	26 848	15,46 274	No 84.
	1883-84	1 459	1 64 689	1 322	44 449	11,088	12 90 722	14 869	15,09,861	367	3,967	4 ???	99 780	—	—	5 225	1,32 737	—	—	—	—	—	—	—	—	19 6??	16 42 578	

Appendix B.

Forest Department, School Circle, North-Western Provinces and Oudh.

Field in produce.

Description of produce	1885-86. Quantity.	1885-86. Value.	1886-87. Quantity.	1886-87. Value.	Remarks.
Dehra Dún Division.		Rs.		Rs.	
Timber ... ... c. ft.	127,970	57,202	1,79,069	23 713	
Poles ... ... No.	39,993	14,197	26,709	16 446	
Saplings ... ... No.	16 128	2,472	29,276	6,054	
Bamboos and basals ... (scores)	78,378	9 853	35 002	4,486	
Firewood ... ... c. ft.	390,103 (494 280)	12,630 (31,567)	9,49 990	26,952	
Charcoal ... ... c. ft	644	17	...	...	
Minor pr duce	...	6 461	...	6,483	
Grazing dues	...	5,696	.	3,351	
Amount of free grazing ...	..	(847)	.	884	
Total ...	..	1,07,996 (32,414)	...	92,908	
Saharanpur Division.					
Timber ... ... c. ft.	2,536	972	4 719	1,490	
Poles ... ... No.	12 920	4,4 2	2,143	997	
Saplings ... ... No.	5,°28	2,151	2,976	379	
Bamboos ... ... (scores)	87,244	12,595	80,660	10,047	
Firewood ... ... c. ft	218,196	5,741	134,540	3,844	
Charcoal ... ... c ft.	1,224	273	...	...	
Minor produce	...	8,136	...	10,161	
Grazing dues	...	13 490	...	13,685	
Amount of free grazing ...	...	(415)	...	644	
Total ...	...	47,7°0 (415)	...	41,177	
Jaunsár Division.					
Timber	415,758	95,330	436,814	2,26,781	
Saplings ... ... c. ft	1,419	282	724	269	
Bamboos ... ... (scores)	2),555	277	3,088	111	
Firewood ... ... c. ft	125,690 (1,660,000)	21,°44 (46,625)	157,377 (1,460,000)	28,767 (45,625)	
Ditto torches ... (lunds)	...	...	2 640	72	
Ditto charcoal ... c. ft.	3,872	478	13,020	780	
Minor produce	...	212 (500)	...	221 (00)	
Grazing dues a d fodder grass ...	...	2,414	...	1,374	
Amount of free grazing ...	...	(6,320)	...	6,363	
Total ...	...	1,30,248 (52,445)	...	3,11,°24	
Total for the Circle.					
Timber ... ... c. ft.	547,164	1,53,404	616,515	2,51,485	
Poles ... ... No.	52,853	18 749	27 872	17,443	
Sap'ings	23,470	4,712	32,976	6,701	
Bamboos, &c ... (scores)	180,174	22,455	124,627	14,644	
Firewood ... ... c. ft.	736,989 (1,954,280)	39,519 (77,192)	2,704,547	1,05,260	
Ditto (charcoal) ... c ft.	5,640	768	13,020	780	
Minor produce	...	14,809 (500)	...	17,365	
Grazing dues	...	21,600	...	25,6 0	
Amount of free grazing and fodder grass.	...	(7,582)	...	7,321	
Grand Total ...	...	2,76,016 (85,274)	...	4,47,109	

Note.—The figures in brackets in columns 2 and 3 are included to show the comparison between the figures of the two years.

They were not included in the last year' report, but were supplied at the request of the Inspector-General of Forests.

APPENDIX C.

Disposal of produce collected by Government Agency.

Description of produce.		Sold locally.				Depôt transactions.													
						Balance in hand at commencement of year.				*Brought to depôt.*				*Total received in depôt.*				*Removed by purchasers from depôt.*			
		1895-96.		1896-97.		1895-96.		1896-97.		1895-96.		1896-97		1895-96.		1896-97.		1895-96.		1896-97	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs
Timber	c. ft.	...	... *	...	...	46,452	50,408	(c) 60,089 (b)	50,923	148 770	1,60,364	236,220	2,16,407	195,502	2,10,767	296 330	2,66,880	123,918	1,59,948	7 093 / 172 893	1,81 040
Poles and Saplings ...	,,	...	...	...	...	3 502	1,454	14,393	5,353	32,964	14,771	53 901	16,355	36,967	16,358	67,886	21,608	...	10 709	1,141 / 42,973	11,753
Firewood ...	,,	91,680	3,349	2,927	485	73,316	9,958	60,642	10,539	166,142	26,150	171,567	31,401	239 458	36,117	232,209	41 940	168,116	25,525	153 084	27,374
Charcoal ...	,,	2,512	389	2,730	415	2,745	696	675	116	60	10	1,417	270	2,744	696	1,992	386	2,437	574	396	96
Bamboos ...	No	...	...	...	...	...	...	...	...	1,220	20	713	15	1 220	20	713	15	...	...	270	5
Fodder grass (pulas), (loads)	...	...	...	517½	5	...	...	...	...	...	...	43	6	...	...	43	6	...	...	...	...
Total	...	...	3,716	...	915	...	62,531	...	66,922	...	2,01,734	...	2,66,357	...	2,63,956	...	3,33,279	...	1,87,654	...	2,21,088

Description of produce.		Depôt transactions—(*concluded*).																			
		Lost or written off as useless.				*Used by the department from depôt.*				*Converted in depôt.*		*Transferred to the Forest School.*				*Total issued from depôt.*				*Balance in hand at commencement of the year.*			
		1895-96.		1896-97.		1895-96.		1896-97.		1895-96.	1896-97.	1895-96.		1896-97.		1895-96.		1896-97.		1895-96.		1896-97.	
		Quantity.	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity	Value.	Quantity.	Value.
			Rs		Rs. *		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.	(a)	Rs.		Rs.
timber	c. ft.	2,311	231	5,244	4,539	9,861	7,185	17,646	13,043	7 513	902	...	...	439	588	...	...	143,491	1,80 644	60,089 (b)	50,923	67,161	69 606
Poles and saplings ...	,,	270	116	...	3 279	200	75	385	110	...	...	...	...	...	...	...	...	21,389	10,993	44 471	15,042	14,293	5 353
Firewood ...	,,	...	54	512	67	200	10	580	69	...	...	...	...	...	...	...	...	199,586	25,589	183,189	27 510	60 642	10 526
Charcoal ...	,,	...	26	...	...	3	...	67	17	...	...	...	...	...	...	...	...	2,709	676	453	113	476	119
Bamboos ...	No.	...	...	...	...	...	...	643	10	...	...	...	...	...	...	...	...	1,220	20	713	15	...	...
Fodder grass (pulas), (loads)	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...
Total	...		519	...	8,310	...	7,370	...	13,259	...	902	...	...	...	588	...	...	...	1,96,853	...	2,43 447	...	90,822

Note.—(a) Includes 6,378 cubic feet of timber in Forest Depôts, Jaunsar not included, in last year's form.

(b) The difference is owing to number of poles having been wrongly included in the Dun Division, instead of cubic feet last year.

* Depreciation of value of stock in the Saháranpur Division of Rs. 113 under timber, and Rs. 3,279 under poles, &c.

APPENDIX D.

Forest Department, School Circle, North-Western Provinces and Oudh.

Stock Account.

Description of stock.	On hand at commencement of the year.										On hand at close of the year.										Increase or Decrease in value.				
	Dehra Dún Division.		Saháranpur Division.		Jaunsár Division.		Direction Division.		Total.		Dehra Dún Division.		Saháranpur Division.		Jaunsár Division.		Direction Division.		Total.						
	Cubic feet.	Value.	Cubic feet.	Value.	Cubic feet.	Value.	Cubic feet.	Value.	Cubic feet.	Value.	Cubic feet.	Value.	Cubic feet.	Value.	Cubic feet.	Value.	Cubic feet.	Value.	Cubic feet.	Value.	Dehra Dún.	Saháranpur.	Jaunsár.	Direction.	Total.
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.					
Timber ...	151	41	14,945	5,597	59,186	56,639	.	...	74,282	58,276	20,719	5,830	2,169	821	86,824	69,483	.	...	1,09,731	76,134	+5,789	−4,776	+18,845	...	+19,858
Firewood and Charcoal.	12,162	1,216	...	...	48,955	9,430	...	...	61,117	10,646	6,984	698	...	...	73,776	13,999	..	...	80,760	14,697	−518	...	+4,569	...	+4,051
Minor produce ...	...	...	...	...	...	...	..	...	...	...	...	...	..	...	...	1	.	...	...	1	...	...	+1	...	+1
Livestock ...	...	2,800	...	1,700	...	...	..	2,000	...	6,500	...	2,200	...	1,700	...	...	...	2,000	...	6,500	...	...	...	...	...
Dead stock including buildings, furniture, &c.	...	16,595	...	8,154	...	34,980	..	22,732	...	82,461	...	20,235	...	8,723	...	37 847	.	37,374	...	1,04,174	+3,640	+569	+2,862	+14 842	+21,713
Total ...	...	20,652	...	15,451	...	95,048	...	24,732	...	1,55,883	...	29,563	...	11,244	...	1,21,325	..	39,374	...	2,01,506	+8,911	−4,207	+26,277	+14,642	+45,622

APPENDIX E.

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Measurement of growing trees in sample plots in 1886-87.

SAHARANPUR DIVISION.

Dholkhand sample plot.

Number of trees.	Girth on 1st December, 1882.		Girth on 3rd and 4th December, 1886		Total increase in girth in four years.	Mean girth increment in four years	
	Feet.	Inches	Feet.	Inches.	Inches.	Inches.	
31	1	10·0	2	1·1	3·1	3·65	3·275
135	1	7 8	2	0·0	4·2		
16	2	5·8	2	8·5	2·7	2 9	
45	2	3 2	2	5 3	3 1		

Lakarkot sample plot.

116	1	2·0	1	7·1	5·1	5 05	3·7
216	1	3 2	1	8 2	5·0		
70	2	1·3	2	4·9	2·6	2·35	
115	3	4 1	3	6·2	2·1		

JAUNSAR DIVISION.

Results of 12 average trees.

Number.	Kind.	Girth on 21st June, 1886.			Girth on 2nd May, 1887			Increase in girth during year.			Remarks.
		Feet.	Inches.	¼ inch	Feet.	Inches.	¼ inch.	Feet	Inches.	¼ inch.	
1	Spruce ...	2	6	7	2	7	4	...	...	5	
2	Karahú ...	3	7	...	3	7	5	...	...	5	
3	Ditto ...	1	9	7	1	10	1	...	...	2	
4	Spruce ...	1	6	5	1	6	6	...	...	1	
5	Karahú ...	1	3	4	1	3	5	...	...	1	
6	Ditto ...	4	5	6	4	5	7	...	...	1	
7	Ditto ...	...	11	7	1	...	1	...	...	2	
8	Ditto ...	1	1	7	1	2	...	...	...	1	
9	Ditto ...	2	1	6	2	1	6	...	...	2	
10	Spruce ...	7	9	6	7	10	...	...	...	2	
11	Karahú ...	2	1	...	2	1	3	...	...	3	
12	Ditto ...	3	...	6	3	...	6	...	...	...	

Appendix F.

Details of cultural operations.

Dún Division.

The principal work undertaken in the Dún Division was the planting up of the Johra block with bamboos (*Dendrocalamus strictus*) 2,482 plants being put out from the Pardun nursery, at a cost of Rs 66 at distances of 20′ × 20′. The plants are said to be doing well, and the remaining plants in the nursery will be put out in July.

A large nursery half an acre in extent for tún and paper mulberry (*Brossonetia papyrifera*) was started at Phandowala, and in March contained :—

Tún	8,864
Paper mulberry	14,015

The cost was Rs 256. The plants are looking vigorous, some of the tún being 30 inches high and the mulberry 19 inches.

The plants will be put out in grassy blanks in the Phandawala block in July.

The small Phandawala plantation of sál now contains 800 successes and was re-stocked with sál at a cost of Rs 19, and the protection from fire cost Rs 15.

This plantation is interesting, as although it is on a grassy area in the midst of sál forest, and was started in 1862, yet the plants have made very little progress, and are with difficulty protected from frost.

The Rámgarh plantations, chiefly of sál, but with some bamboos, were originally started as an experiment for the Forest School.

Bamboo appears to be doing fairly well, and as the success of the sál is so uncertain, the area should be planted with bamboos. The cost of this plantation was Rs. 127.

The Jaberkhet plantation was also started for the Forest School, as it was considered a better site than that at Rámgarh. The sál plants, however, suffer severely from frost and drought, and the plantation will be abandoned, as the area contains a valuable supply of thatching grass, which cannot be cut as long as planting is attempted.

Rs. 297 were expended on this area during the year, 14,250 pits being dug and planted with yearling sál plants, whilst 1,926 patches were sown with sain.

Rs. 50 were expended in the ploughing up and sowing a burnt grassy area in Thano forest.

Rs. 259 were spent on the maintenance of the bamboo nursery at Pardun.

Saháranpur Division

A small sál nursery was made in a grassy blank in the Dhaula block at cost of Rs. 9. A small area of ¼ acre adjoining the nursery has been ploughed up and sown broadcast with *Ailanthus* pula (*Kydia calycina*) and some other quick growing species, and it is intended to plant the sál under their cover.

In Gangerhan one acre was planted with *Ailanthus* and sissu, and the nursery was sown successfully with sál . cost Rs. 69 In Bám the whole plantation was burned, but the plants shot up after the fire, and the nursery was resown with sál : cost Rs 22

In Sendli sál was sown in pits at a cost of Rs. 56.

Tars.—In order to fill up blanks in the coppiced area various kukat species were planted out, but few survived. The nursery was carefully sown up with various kukat species . cost Rs. 171.

In Ránipur existing blanks were filled up, generally unsuccessfully ; the bamboos in the nursery were thinned out, and mulberry and karha sown.

Between Ránipur and Hardwár bamboos will be planted out in level grassy blanks.

Jaunsár Division.

In Jaunsár the chief operations were as follow :—

Fifteen acres planted with inais (*Quercus annulata*) and kail in the Korwa forest are a failure, and the area will be sown up with " chir."

In Mohna 5,348 deodár seedlings were planted out and 1,657 pits sown with rai.

Three thousand seedlings of deodár from the forest were planted out in the Deothát nursery.

Very little more work is required to re-stock all the blanks in the Mohna block, where the fuel fellings for Chakrata were commenced in 1872.

The blue-pine is establishing itself everywhere on grassy slopes, and some of the older trees are now beginning to seed. The expenditure in Mohun was Rs. 26.

Kanj'tra.—Nine hundred and sixty deodár plants were put out in failures. The sowings of 1885, fir and spruce, in the fuel fellings were cleared of grass and re-sown where seedlings had not appeared. This operation in contour lines one foot wide and ten feet apart has been very successful, and when tested by the Forest School it was found that there were 63 per cent. of successes, a success being one plant for every four feet.

The silver fir succeeds in the damp hollows where the snow lies long and deep, and the spruce best on the ridges.

Katián.—Seven hundred and twenty pits were planted with deodár to fill up the old plantation, and a new nursery was made; cost Rs. 48.

Munddli.—A successful deodár nursery was made.

Drota.—A large deodár nursery was made by the students of the Forest School, and was sown in November, with 12½ seers of seed; it now contains 30,000 plants. 2,473 seedlings from the forest were also planted out in the nursery for this year's planting, as well as 5,954 plants from former nurseries.

One thousand plants were planted out to fill vacancies in the Jaurási block.

The total cost was Rs. 118.

Ratangarh.—Four thousand deodár plants were put out in a blank too late in the rains for success; cost Rs. 24.

The Morách nurseries re-sown and blank pits re-planted; cost Rs. 16.

Appendix G.

Forest Department, School Circle, North-Western Provinces and Oudh.

Table showing the area and position of each fire reported during the season of 1886-87 *and its probable cause.—*

Range.	Forest or block.	Date of fire.	Year of first protection.	Area burned.	Remarks as to cause of fires.
		Dehra Dún Division.			
Jamna ...	Ambári ...	May 2nd—4th,	1887...	1,089	Carelessness of establishment. Fire crossed imperfectly burned fire line from outside.
Ditto ...	Timli ...	May 20th & 21st	1884 ..	1,800	Fire crossed ridge of Siwahks from Saháranpur district.
Ditto ...	Ditto ...	June 7th & 8th,	1884 ..	225	Ditto. Extinguished by rain
Malhán .	Sherpur ...	May 3rd ...	1884...	41	Incendiarism by a grazier, who was sentenced to six weeks' imprisonment.
Ditto	Ditto ...	May 18th—21st,	1885...	4,328	Crossed ridge from Saháranpur side of Siwálika. Extinguished by counter-firing.
Central ...	Phandowala ...	April 15th ...	1876 ..	150	Burning fire line too late in the season.
Eastern Siwaliks	Motichur ...	January 18th...	1883...	30	Incendiarism by traveller.
Ditto ...	Nichla Song ...	Ditto 23rd ..	1881...	34	Fire crossed from outside before fire line had been burned.
Ditto ...	Ditto ...	Ditto 30th ...	1881...	30	Fire escaped whilst fire line was being burned.
Ditto ...	Kharkari ...	March 12th ...	1887...	35	Uncertain.
Ditto ...	Ditto ...	Ditto 15th ...	1887...	55	Ditto.
Ditto ...	Motichur ...	June 4th—8th,	1883 ..	4,920	Incendiarism; probably by thieves from Saháranpur district.
		Total	...	12,787	
		Saháranpur Division.			
Western range,	Khára ...	March 10th ...	1887...	32	Uncertain.
Ditto ...	Ditto ...	April 4th ...	1887...	80	Ditto.
Ditto ...	Ditto ...	April 5th, 7th, 20th, 23rd—18th.	1887...	1,410	Incendiarism each fire independent of others, and fires set methodically in grazing grounds from west to east Probably set by neighbouring villagers, as areas burned were convenient for grazing.
Ditto ...	Ditto ...	May 11th & 12th,	1887...	371	Carelessness of a fire guard who was smoking near his chauki.
Ditto ...	Bádshahibágh,...	April 28rd 26th, 29th & June 8th,	1885 ..	2,455	Extensions of incendiary fires from Khara block.
Ditto ...	Kasúmra ...	May 22nd ...	1885...	1,589	This fire originated close to ridge of Siwáliks in Kaluwála block, and also caused the great fire in the Sherpur forest, Dehra Dún. Owing to intense heat and drought and difficult nature of ground it was impossible to extinguish it until the 23rd May.
Ditto ...	Sahánsra ...	May 18th ...	1885...	4,388	Ditto.
Ditto ...	Kotra ...	Ditto ...	1885...	2,669	Ditto.
Ditto ...	Kaluwála ...	Ditto ...	1885...	4,803	Ditto.
Ditto ...	Shábjehánpur,	Ditto ...	1887...	5,273	Ditto.
Ditto ...	Khajnáwár ...	Ditto ...	1887...	400	Ditto.
Ditto ...	Mohand ...	May 6th ...	1886...	2	Uncertain.
Central ...	Sákh ...	April 4th ...	1884...	28	Fire lighted by three European soldiers marching to Landour, who were fined Re. 21.
	Carried forward,	...	...	23,521	

Range.	Forest or block	Date of fire.	Year of first protection.	Area burned.	Remarks as to cause of fires.
		SAHÁRANPUR DIVISION—(*concluded*).			
Brought forward,	...	...	...	23,521	
Central ...	Betban ...	March 30th ...	1883..	139	Fire spread from forest guard's grass shed, which was burned whilst cooking was going on.
Ditto ...	Lálwála ...	January 3rd ...	1884...	30	Uncertain.
Ditto ...	Sendhli .	Ditto 19th ...	1883...	2	Ditto.
Eastern ...	Rauli ...	June 5th—8th,	1879 ..	102	Crossed from Dehra Dún.
Ditto ...	Ráni ...	Ditto ...	1879...	8	Ditto.
Ditto ...	D tto ...	April 15th ...	1879...	7	Ditto.
Ditto ...	Maispúr ...	L itto ...	1886 .	7	Ditto.
		Total ..	...	23,876	
		JAUNSÁR DIVISION.			
Deoban ...	Suitoli ...	May 2nd ...	1880 ..	6	Caused by soldiers of Rifle Brigade ; 1 000 deodár plants burned in a plantation.
Ditto ...	Durání ...	December ...	1872 ..	85	Uncertain. Great carelessness shown in extinguishing this fire by protective establishment.
Ditto ...	Mashak ...	May ...	1872...	1	Incendiarism.
Ditto ...	Karamba ...	December ...	...	70	Probably due to carelessness of protective establishment in burning fire line.
Báwar ...	Báná ...	October ... / February ...	1887	40	First—Caused by incendiarism by Gújars. Second—Uncertain.
Ditto ...	Damich-khera.	April 2nd ...	1887...	250	Carelessness of protective establishment in burning fire lines.
Ditto ...	Bastil ...	...	1879...	7	
Deota ...	Chátra ...	January ...	1879...	50	Ditto.
		February ...	1887...	14	Fire left by Shikáris.
Kotigád ...	Dámpti ...	March 3rd ...	1887...	110	Spread from grass left for winter fodder of village cattle, 1,500 deodár and kail plants destroyed.
	Cheo ...	February 17th,	18'9...	50	Fire line incompletely burned.
Deogarh ...	Raiengarh ...	May ...	1887...	200	Camp fire left burning by shepherds.
Ditto ...	Bashár ...		1881 ...	150	Carelessness of protective establishment and of villagers.
	Total ...	...		1,033	

ORDERS OF GOVERNMENT

No. 516F./699-4 of 1887.

RESOLUTION,

REVENUE (FORESTS) DEPARTMENT.

Dated Naini Tal, the 29th September, 1887.

READ—

Annual Progress Reports of the Administration of the Forest Department, North-Western Provinces and Oudh, for the year ending 31st March, 1887.

OBSERVATIONS.—The reports were received from the Government Printing Press on the 5th September, or six weeks earlier than last year. The date would have been even earlier but for the late despatch of the report for the School Circle to the Press. The Conservator sufficiently explains the cause of the delay. The reports for the other two Circles were submitted with commendable promptitude, and the printing has been rapidly done. The wish of the Government of India to receive the provincial report at an earlier date has thus been complied with.

2. The three Circles remained throughout the year under the charge of the same officers, and the reports have been prepared by them. This continuity of management has been favourable both to the year's administration and to the record of its results.

Central Circle	... Mr. Baghawa.
Oudh "	... " Whittall.
School "	... " Fisher.

3. The areas of the reserved forests in square miles at the beginning and end of the year are marginally noted. The alterations in the areas of the three Circles were unimportant. In the Central Circle about 80 acres in Lalitpur and Jhánsi were relinquished to the railway. In the Oudh Circle some resumed waste land grants in the Kheri and Gonda districts, measuring nine square miles, which were mentioned in the report for 1885-86, were added to the area of the reserved forests. In the School Circle 117 acres of grass land in Jaunsár were excluded from the reserves with the sanction of Government, and 450 acres were added by demarcation and closure to the "demarcated reserved" area of the leased forests. The net increase in the Circle was thus 383 acres: in paragraph 8 of the Conservator's report a decrease of 117 acres is wrongly shown. In the Government review of the reports for 1885-86 it was explained that only such portions of the extensive leased forests in the School Circle as are demarcated and reserved are shown in the returns.

Circles.	1st April, 1886.	31st March, 1887.
Central	1,603	1,603
Oudh	1,194	1,203
School	803	804
Total ...	3,600	3,610

4. Besides the reserved forests there are in the Central Circle 73 square miles of protected forests, comprising the Naini Tal and Ránikhet forests, and also 118 square miles of "unclassed State forests" in the Bánda district. The nature of the latter term is explained in

last year's review. The forests in question have not been brought under the Forests Act, and are managed by the Collector of Bánda. In the Oudh and School Circles there are no protected forests; but in the latter Circle 13 square miles of "district waste lands" in the Dún are shown this year for the first time. The Conservator does not explain the connection which the Department has with this area.

5. The state of the boundaries and the condition of the pillars, trenches, and other boundary marks, are very satisfactory in the Central and Oudh Circles. There are practically no cases of disputed boundaries pending, and the adoption of the School Circle rules for the annual inspection of boundary marks, referred to in last year's review, secures their proper maintenance. In the School Circle two or three boundary disputes still exist, but their speedy settlement is anticipated. The expenditure in the three Circles on the repair or replacement of pillars and other marks amounted to Rs. 3,080.

6. *Surveys, working-plans, &c.*—The expenditure under this head in each Circle, as compared with that in the previous year, is marginally shown. In the Central Circle the boundary survey of the area comprising the Kumaun Iron Works Company's grant, which was last year added to the reserves, and of the Ninglath Gújar forest near Naini Tal, which is about to be "reserved" under the Act, has been completed. For the former area an interior survey already exists, and for the latter one has been sanctioned. Working-plans for the Naini Tal and Ránikhet forests, and for part of the Kumaun and Ganges forest divisions, were completed. Although less than half the Circle has as yet been supplied with permanent working-plans, the only portions for which they are urgently required are the new reserve in the Naini Tal division and a block of forest, measuring about 130 square miles, in the Ganges division. No officer has been available for this work. It should not be difficult for the Conservator to arrange for the preparation of a brief and provisional plan, to guide the working for a period of 10 years or until it may be found possible to depute a special officer to prepare a permanent one. He will be asked as to this. In the Oudh Circle the materials for the working-plan of the valuable sál forests of the Kheri division were successfully collected by Mr. Broun, and his report is now on the point of completion. The enumeration appears to have been very thoroughly made, and brings out the interesting fact that there are more than double the number of young trees in the closed than in the open portions of the forests. The advantages of fire-protection are thus strikingly illustrated. In the School Circle working-plans for Dehra Dún, Jaunsár, and the Tehri leased forests were under preparation, and it is understood that Mr. Hearle will soon be able to submit the two latter. Mr. Fernandez, the present Assistant Inspector-General of Forests, was engaged on the Dehra Dún plan, when he was removed from these Provinces this year. It has, however, been arranged that his transfer to the Inspector-General's office will not interfere with his completion of the report by an early date. Generally speaking, therefore, good

Circles.	1885-86.	1886-87.
	Rs.	Rs.
Central ...	1,407	1,321
Oudh ...	1,052	1,982
School ...	2,864	1,196

advance has been made during the year in this important branch of forest administration in all the Circles, and it may be expected to continue, provided the staff of Forest Officers at the disposal of this Government is retained at its present strength.

7. *Establishments.*—The dearth of duly qualified men to fill the responsible posts of rangers is still felt in all the Circles; but by means of the Forest School, this difficulty is steadily diminishing. The Conservator of the Central Circle reports that in three years' time he expects to have 15 certificated subordinates. The Conservator of the School Circle speaks favourably of most of his range officers, and mentions that the four English-speaking certificated rangers in his Circle considerably lighten the work of their divisional officers. As this class of officers increases, considerable improvement in the details of forest administration may be looked for. Foresters and forest guards are also reported to be gradually improving, as the higher pay now offered is attracting better men. Cases of dismissal or degradation were not numerous.

The great demands made on the clerical establishments of the Direction and Divisional Offices by the forms and returns prescribed by the Forest Code deserve serious consideration, as the Lieutenant-Governor and Chief Commissioner considers that the efficiency of the Department would be much promoted by any simplification or reduction of statistical work which the Inspector-General of Forests could see his way to propose. In particular, the audit of accounts seems susceptible of much improvement. As matters stand at present, the Lieutenant-Governor and Chief Commissioner has been obliged on several occasions to refuse applications for additional establishments for the simple reason that the financial results of the Department do not warrant more expenditure, yet with a strong belief that the work thrown on the Forest offices by the present system is excessive. With these remarks the Lieutenant-Governor and Chief Commissioner leaves the subject to the consideration of the Government of India.

8. *Breaches of forest law.*—The subjoined table gives the chief details :—

Circles.	Cases before the Courts.	Prosecutions.				Cases compounded.	
		Convictions.		*Acquittals.*		Number of persons.	Amount received in compensation.
		Cases.	Persons.	Cases.	Persons.		
							Rs.
Central ...	134	79	136	48	103	325	1,537
Oudh ...	108	106	165	2	9	142	(Not given.)
School ...	137	129	283	8	31	283	737
Total ...	376	314	584	58	143	750	2,274
Total for 1885-86 ...	213	178	371	31	95	656	...

In the Central Circle there were fewer prosecutions, but more cases were compounded. The Conservator has sufficiently explained the figures, and adds that there were no serious offences, and that on the whole the forest rules have been well observed. In the Oudh Circle a large increase occurred under both prosecutions and cases compounded.

The Conservator reports that in both Bahraich and Gonda cases of illicit grazing are common. The matter has been made the subject of special report, and rules are under consideration which will enable Forest Officers to exercise more check over the large herds of cattle which should, but which often do not, pay grazing dues. In the School Circle the number of cases prosecuted or compounded was about the same as in the previous year.

9. *Forest fires.*—The following statement compares the fire conservancy operations of the year with those of 1886 :—

Fire conservancy operations.

Circles.		Area attempted to be protected.	Area actually protected.	Failures.	Percentage of failure.	Cost during the year.	Cost per acre.
		Acres.	Acres.	Acres.		Rs.	Rs. a. p.
Central ...	1885-86 ...	263,287	263,017	270	·10	38,224	0 13 2
	1886-87 ...	312,398	289,434	22,964	7·93	16,872	0 10 3
Oudh ...	1885-86 ...	357,448	345,283	12,165	3·40	11,589	0 6 1
	1886-87 ...	449,448	382,611	66,837	17·46	11,493	0 4 9
School ...	1885-86 ...	326,875	313,274	13,601	4·1	8,993	0 5 2
	1886-87 ...	390,920	353,224	37,696	10·67	8,388	0 1 10
Total ...	1885-86 ...	947,610	921,574	26,036	2·7	38,806	0 7 9
	1886-87 ...	1,152,766	1,025,269	127,497	12·43	36,753	0 6 1

In the Central Circle the area in which protection was attempted was considerably larger than in 1885-86, and the cost showed a proportional decrease. Unfortunately nearly one-eighth of the fire-protected area was burnt, the extreme drought in the hills from the beginning of 1877 to the setting in of the present rainy season rendering the forests extremely inflammable. Full particulars of the numerous destructive fires which occurred in the Ránikhet reserved and protected blocks, in the Rehar forest of the Garhwál division, and in the Gwalgarh and Kumaun forests of the Ganges division are given by the Conservator in an appendix to his report. In all 70 fires occurred, of which 47 are put down to accidents, and only four to malice. Two of the most destructive fires originated in adjacent private forests and were blown across the fire-line. Children playing in the forest, travellers protecting their encampment from wild beasts at night, sportsmen attempting to smoke out a leopard or a porcupine, are instances of the trivial causes in which most of these fires originated. The damage sustained by the forests has not yet been accurately ascertained; but possibly, from the rapidity with which fires traverse a dry hill forest, it may prove less than was at first expected. In last year's review the high cost of protection in the plains forests of this Circle was noticed. The Conservator has now discussed the charges in detail, and has shown that in the Central Circle the maintenance of many paths which might properly be charged to "roads" have hitherto been wrongly debited to fire conservancy. In the Oudh Circle the area under protection showed an increase of 93,000 acres; but the area burnt in the hot weather of 1887 was, as in the Central Circle, very much above the average. In the Bhira division 27,000 acres in all

were burnt, and 20,000 acres in Pilibhit. It is comparatively fortunate that these fires occurred in the poorest forests which had not been protected from fire sufficiently long to give much opportunity for damage. In the School Circle, also, fire protection was attempted in a larger area than usual, and fires were more frequent and extensive. It is to be noted that in this Circle grazing is allowed throughout the year in two-thirds of the area in which protective measures are adopted, and the Department has to trust greatly to the carefulness of the graziers, and to their prompt assistance in the case of fire breaking out. Speaking generally of all three Circles, it may be said that the marked increase in the area attempted to be protected and the decreased cost of the operations are satisfactory; while the large percentage of failures may be reasonably attributed to the exceptional dryness of the year, and at most leads to the conclusion that in exceptional seasons immunity from fire cannot be absolutely secured by protective arrangements.

10. *Grazing.*—The amount realized from grazing (Rs. 94,878) was about the same (Rs. 91,689) as in 1885-86. In the Central Circle the area closed absolutely to grazing is now nearly one-third of the whole forest area. Some 40 square miles were closed for the first time during the year. In this Circle two matters are under consideration: (1) the periodical closing of certain forest blocks in rotation in order to improve reproduction; and (2) the destructive practice of lopping trees for fodder. Generally speaking, the grazing question in this Circle is on a satisfactory footing. The same may be said in respect of the School Circle. Here fire protection has been extensively introduced without closure to grazing. The only difficulty mentioned by the Conservator arises from the passage of buffaloes and pack-bullocks through Jaunsár, by which cattle-disease has been extensively propagated. The Commissioner of the Division and the Director of Land Records and Agriculture will be asked to report as to the possibility of alleviating or preventing the evil. The Conservator of the Oudh Circle has given statistical details regarding the grazing in each division with the object of establishing two propositions. The one that the Government loses some Rs. 20,000 a year by the low grazing rates sanctioned for "privileged" villages in Oudh; and the other, that more sál blocks might be safely closed without unduly trenching on the requirements of the cattle pastured in the forests. As regards the first proposition, the rates have been authoritatively determined by the Government after a full review of all the circumstances, and the so-called loss, from the departmental standpoint, is merely the measure of compensation which the State has thought proper to mete out to a certain section of the community, whose prescriptive rights and whose general well-being are unavoidably affected by our forest administration. The second proposition will not be here discussed, as no statements of a general nature as to the sufficiency of the grazing area remaining after the exclusion and closure of a half or a third of the present open tracts can be acted upon without particular evidence that the lands proposed to be retained for grazing are accessible and otherwise commodious. Each case must be dealt with on its merits. Thus in the particular case of the Kheri forests the Government has recently sanctioned the closure of a large additional area of sál and its inclusion in the working-plan, on

satisfactory proof that sufficient provision has been made for actual and prospective grazing requirements. It may be added, with reference to the general terms of the Conservator's remarks on this head, that the Local Government, in allowing certain rights and privileges to village communities, does not treat the forest revenue which is thus waived as a loss, but regards the transaction as one on the whole beneficial to the community at large; seeing that the stewardship of State forests cannot, as Mr. Whittall observes, be judged exclusively by financial tests.

11. *Natural and artificial reproduction.*—In all the Circles the abundant seeding of the sál and the successful germination of the seeds are mentioned. Frosts, however, were exceptionally severe, and did considerable damage. The Conservator of the Central Circle reports satisfactory reproduction throughout the hill forests of the Circle, save in a few exceptional localities, where the grazing is unavoidably severe. The plains forests, wherever they are fire-protected, are also doing well. The Conservator of the School Circle reports to the like effect regarding the fire-protected forests in the Siváliks, in the Dún, and in Jaunsár-Báwar. In the Oudh Circle natural reproduction was good in the important sál forests of Kheri: also in Gonda and Gorakhpur. The reports for Pilibhit and Bhira, where severe frosts and destructive fires told heavily on these impoverished forests, are less encouraging. Artificial reproduction was successful in all Circles in the limited area in which it is attempted. In Jaunsár and in the Naini Tal forests the process of stocking blank areas with deodár and other trees is progressing satisfactorily, and promises to be remunerative. Good accounts are given of the Ránikhet nursery and seedling depôt, which under Mr. Craw's management distributes annually thousands of fruit-trees and valuable forest trees throughout the Kumaun Division. The nursery now contains over 200,000 mature fruit-trees and seedlings, and is reported to be in excellent order. The suggestion made by the Commissioner of Kumaun to depute an experienced nursery gardener to visit the villages and teach the villagers how to manage their fruit-trees will not be lost sight of. During the last 10 years upwards of 50,000 apple, pear, apricot, and other fruit-trees have been gratuitously distributed. Owing to inexperience and inattention to details on the part of the villagers, the result has not been commensurate with these efforts, and instruction and supervision are highly desirable if provision for them can be made at a moderate cost.

12. No mention is made of creeper-cutting in the Oudh Circle. In the Central Circle 13 square miles were worked over, and in the School Circle about two square miles. Among other cultural work the Conservator of the latter Circle describes the ringing and cutting back operations undertaken to clear areas stocked with young sál and deodár of inferior species. The Conservator of the School Circle reports the measurements made of the growth of sál in selected plots. These annual measurements will in time furnish valuable data for working-plans. It seems now an ascertained fact that the annual increase in the girth of sál in thinned plots is double what it is in unthinned.

13. *Communications and buildings.*—The expenditure incurred during the year on communications is shown below:—

Expenditure on communications and buildings.

Circles.	Roads and bridges.	Buildings.	Other works.	Total.	Percentage on gross expenditure of the year.
	Rs.	Rs.	Rs.	Rs.	
Central	26,398	7,954	480	34,832	12·5
Oudh	13,028	12,102	3,213	28,343	7·5
School	7,641	10,222	729	18,592	6·9
Total ...	47,067	30,278	4,422	81,767	
Total, 1885-86 ...	43,941	31,705	3,516	80,247	

The percentage on the gross expenditure of each Circle, which is shown in this statement, is useful, as it directs attention to the necessity for economy in this branch of expenditure. The Conservator of the Oudh Circle has worked out similar calculations for each division in his Circle on the expenditure of the last 10 years, and thereby brings out the important fact that, in the financially unproductive divisions of Pilibhít and Bhira, the expenditure on roads and buildings has been very high. The test has to be taken subject to important qualifications; but the Lieutenant-Governor would be glad if in next year's report the Conservators of the other two Circles would apply it, as Mr. Whittall has done, to the expenditure in each division during the last 10 years, and would report how far further additions to existing roads and buildings are justifiable in view of the financial position, or possibilities of development, of each division.

14. *Yield and working.*—In the orders on last year's report the import of the several returns prescribed under this head, and their relation to each other, were discussed at some length. Since then the Government of India have issued instructions which should have the effect of obviating the difficulties experienced in preparing and explaining the code forms. More attention has been evidently paid to the subject in the reports under review. The report for the Central Circle is again distinguished for the clearness with which the figures given in the appendices are elucidated; and the Lieutenant-Governor would be glad if the Conservators of the other Circles will in future adopt Mr. Bagshawe's method of explaining the working of the year with reference, first, to the Circle generally, and then to each division. The synopsis of results given in paragraph 74 is especially useful. The defect of the report for the Oudh Circle is that it insufficiently describes the operations of the year in the several divisions of the Circle; nor does the text adhere with sufficient closeness to the statistical tables. The report for the School Circle might be more compressed, and its account of the working more connected.

15. The following abstract of Forms Nos. 54 and 55 shows the timber, fuel, and minor produce which was "removed" from the forests during the year, and the agency by which it was removed. It includes such of the previous year's produce as was not "removed" or exported

until 1886-87; while it excludes timber and other produce, which may have been prepared or collected during the year, but which had not up to the close of the year been brought on the books as removed or exported. It may be well to mention that "removed" in the case of departmentally worked produce ordinarily means "transferred to the forest depôt," as this is the first operation by which the produce is brought on the books. In the case of produce sold *in situ* to purchasers, "removed" is equivalent to "exported." With regard to the figures shown for the Central Circle, it appears from paragraph 79 of the Conservator's report that they do not include the dry fuel, grazing, and minor produce received by right-holders and free grantees, as it is not the practice in this Circle to enter these grants in the departmental books. Mr. Bagshawe estimates the amount thus received to be about 1,400,000 cubic feet, valued at Rs. 14,653, besides minor produce, grass, and grazing, valued at Rs. 58,535. The figures for the other Circles apparently include all grants of this description. In the Oudh Circle 80 per cent. of the total timber outturn and 50 per cent. of the firewood represents produce removed free by privileged villagers in Oudh and right-holders in Pilibhít. In the School Circle about 9 per cent. of the timber and 72 per cent. of the firewood is similarly accounted for.

Total outturn of the forests.

	In cubic feet (000,s omitted).							
		Class.			*By whom removed.*			
	Total outturn.	Selection fellings.	Clearances.	Thinnings.	Government agency.	Purchasers.	Free grantees.	Right-holders.
CENTRAL CIRCLE.								
Timber	8,74,	5,14,	3,53,	7,	77,	6,72,	32,	93,
Firewood ...	15,86,	1,67,	16,42,	77,	2,17,	12,79,	2,	88,
Minor produce ...	Rs. 1,81,976	...	...	...	Rs. 5,462	Rs. 1,74,799	Rs. 47	Rs. 1,668
OUDH CIRCLE.								
Timber	35,36,	2,09,	31,90,	1,37,	3,59,	3,80,	17,32,	10,65,
Firewood ...	22,61,	...	20,94,	1,67,	1,67,	9,79,	6,58,	4,57,
Minor produce ...	Rs. 1,44,739	...	...	...	Rs. 884	Rs. 1,03,982	Rs. 12,082	Rs. 27,791
SCHOOL CIRCLE.								
Timber	7,27,	4,81,	1,14,	1,32,	2,89,	3,28,	82,	...
Firewood ...	27,17,	1,49,	24,10,	1,58,	1,90,	5,58,	19,69,	...
Minor produce ...	Rs. 65,440	...	...	...	Rs. 21	Rs. 57,097	Rs. 8,322	...
GROSS TOTAL—								
Timber ...	51,37,	12,04,	36,57,	2,76,	7,26,	13,79,	18,46,	11,48,
Firewood ...	65,64,	3,16,	61,46,	4,02,	5,74,	28,17,	26,29,	5,44,
Minor produce ...	Rs. 3,92,155	...	...	...	Rs. 6,367	Rs. 3,35,878	Rs. 20,451	Rs. 29,459

16. Timber to the amount of 5,137,000 cubic feet, fuel to the amount of 6,564,000 cubic feet, and minor produce to the amount of Rs. 3,92,000 were removed from the forests during the year. For the previous year the corresponding figures were—timber, 5,220,000 cubic feet; fuel, 4,125,000 cubic feet; minor produce, Rs. 2,97,000. The comparison, however, is not of much value, as in the year under report the Conservators of the Oudh and School Circles have, as already mentioned, entered much larger amounts as given away to free-grantees and right-holders than in any previous year. As no revenue is received on

this portion of the produce of the forests, a close comparison with the figures of previous years, even if accurate figures were attainable, would not be of much value, though it is undoubtedly important to know to what extent the resources of the forests are made available to the population bordering on them. Leaving the two last columns of the return out of consideration, the removals by Government agency and by purchasers during the last two years are thus contrasted :—

		Government agency.			*Purchasers.*		
		Central Circle.	Oudh Circle.	School Circle.	Central Circle.	Oudh Circle.	School Circle.
		(Cubic feet—000's omitted.)					
Timber ...	1885-86 ...	82,	11,17,	1,51,	5,07,	3,76,	5,62,
	1886-87 ...	77,	3,59,	2,89,	6,72,	3,80,	3,28,
Firewood ...	1885-86 ...	2,10,	4,74,	2,52,	8,07,	12,95,	4,73,
	1886-87 ...	2,17,	1,67,	1,90,	12,79,	9,79,	5,58,

The table shows a remarkable decrease in the amount of timber and firewood "removed" in 1886-87 by Government agency in the Oudh Circle, a decrease which is not counterbalanced by any increase of exports by private purchasers. The explanation is partly that the large sleeper works which have been in progress during the last few years have now in this Circle been almost brought to a close, and partly that the requirements of purchasers were to a great extent met from the stocks accumulated in the depôts in the previous year. That the revenue receipts of the Oudh Circle show no material falling off, despite this large decrease in the produce departmentally removed, is explained by the fact above mentioned that "departmental removals" do not mean departmental sales. The earnings of the year depend on the sales and not on the removals from the forest to the depôt. Now, at the beginning of the year, according to Form No. 56, there was nearly two million cubic feet of timber lying in the Oudh depôts, valued at nearly seven lakhs. At the end of the year, the stock had been decreased by nearly half a million cubic feet. The Circle in fact sold during the year from its depôts twice as much wood as was received in them from the forests. This important fact is not very clearly brought out in the Conservator's report. The other noticeable points in the comparative table is the large increase in the produce removed by Government agency during the year in the School Circle, and by private purchasers in the Central Circle.

17. In the above figures dry standing trees, fallen wood, and other kinds of forest produce are included. The green trees felled by Government agency, purchasers, or right-holders during the year, and their yield in timber, should be shown in appendix A. The Conservator of the Oudh Circle, however, has included the cubic contents of fuel and dead wood in his return, and only for selection fellings can the yield in

it

timber be ascertained from his figures. The following is an abstract of appendix A :—

Statement of trees felled.

Circles.		*Selection fellings.*		*Thinnings.*		*Clearances.*		*Total.*	
		Number of trees.	Cubic feet.*	Number of trees.	Cubic feet.*	Number of trees.	Cubic feet.*	Number of trees.	Cubic feet.*
Central ...	1886-87 ...	53,228	6,48,	3,504	7,	10,259	23,	67,051	6,78,
	1885-86 ...	32,052	5,31,	52,810	78,	1,442	15,	86,334	6,24,
School ...	1886-87 ...	8,088	4,10,	39,768	1,40,	*Nil.*	*Nil.*	47,856	6,50,
	1885-86 ...	9,174	5,55,	42,208	1,23,	*Nil.*	*Nil.*	51,382	6,78,
Oudh ...	1886-87 ...	3,879	2,21,	13,953					
	1885-86 ...	38,605	11,96,	17,100					

* 000,s omitted from yield in cubic feet.

Of the 678,000 cubic feet in the Central Circle, 260,000 were felled by Government agency and 328,000 by contractors. The balance represents trees made over to right-holders. Of the 650,000 cubic feet in the School Circle, 351,000 were felled by Government agency and 223,000 by contractors. In Oudh the small number of selection fellings compared with those of the previous year is noticeable, and denotes the cessation of sleeper operations. They were chiefly mature sál trees, felled to meet the ordinary requirements of the timber market. The large number of "selection fellings" in the Central Circle, and the smallness of their cubic contents, is noticeable. The trees averaged only 12 cubic feet, against 63 cubic feet in the School Circle and 59 cubic feet in the Oudh Circle. Under this heading only trees felled for sylvicultural reasons are supposed to be entered. It often happens, however, that the choice, as between two trees, is ultimately ruled by market considerations, especially when, as is the practice in the Central Circle, timber is sold standing to contractors. To such cases the heading "selection fellings" seems more appropriate than either "thinnings" or "clearances."

18. *Departmental operations.*—Of the 53,228 selection fellings in the Central Circle 20,353 were made by Government agency. They yielded 254,000 cubic feet of timber, against a yield of 176,000 cubic feet from 14,137 trees in 1885-86. Of the 8,088 selection fellings in the School Circle and the 3,879 in the Oudh Circle, 4,472 and 3,432, respectively, were made by Government agency. The yield in the School Circle was 288,000 cubic feet against 224,000 cubic feet from 4,788 trees in 1885-86, and in the Oudh Circle 209,000 cubic feet against 682,000 cubic feet from 38,154 trees in 1885-86. In the Central Circle, therefore, more trees were felled than in 1885-86, and the yield was greater. In the School Circle there were fewer trees felled, but they

yielded more. In the Oudh Circle the decrease in both the number felled and the yield is very marked. To complete the departmental yield of timber, the quantity obtained by thinnings and clearances has to be added. This amounted to some 5,000 cubic feet in the Central Circle, 62,000 in the School Circle, and to about 150,000 cubic feet in the Oudh Circle.

19. The value of timber and fuel in stock in the departmental depôts at the beginning and end of the year is shown in the following abstract from Form No. 57 :—

Value of timber in stock in the depôts.

Circles.	*At beginning.*		*At end.*	
	Cubic feet.	Value.	Cubic feet.	Value.
		Rs.		Rs.
Central	30,581	33,770	17,252	3,907
Oudh	1,929,228	6,90,498	1,465,945	5,77,604
School	...	56,922	...	90,632

The large decrease in the stocks of the Oudh Circle has already been noticed. The stocks on hand are still large, and it would be wise policy to clear them off as opportunity presents itself. Extensive sleeper works naturally result in an accumulation of spare material; but as such works are now closed in the Oudh Circle, this tendency will no longer exist. The decrease in the stocks of the Central Circle is due to the closing of departmental works in the Naini Tal and Kumaun divisions. With the exception of the supply of fuel to the Commissariat, the only departmental works in the Circle are confined to Jhánsi, Lalitpur, and Bánda divisions, and even there they are of a limited character, as only 56,000 cubic feet of timber and fuel were extracted by Government agency against 145,000 by purchasers. "Departmental works," writes the Conservator, "should only be undertaken when local circumstances discourage a fair export by private agencies, or when special works demand more exact attention than purchasers are able or willing to carry out." The Lieutenant-Governor and Chief Commissioner would be glad to see this principle given full effect to in the Oudh and School Circles as far as circumstances admit.

20. So far the produce of the forests during 1886-87 has been treated without reference to its value. The subjoined table, which is abstracted from appendix B to the reports, shows the estimated value of the yield. "Yield," it may be well to explain, is used in the School and Oudh Circle reports as synonymous with the "outturn" or "removals" shown in Form No. 54. It there includes all produce brought to account during the year on being removed from the forest by purchasers, or, in the case of departmental works, from the forest to the depôt. In appendix B to the Central Circle report, however, the "yield" there shown is the estimated yield of timber, whether "removed" or not, which was actually felled within the year. This distinction is not of material importance; and as it entails much additional labour in the compilation

of appendix B, the Conservator of the Central Circle will be instructed not to retain it in future :—

(000,s omitted from cubic feet and Rupees)

		Central Circle.		Oudh Circle.		School Circle.	
		c. ft.	Rs.	c. ft.	Rs.	c. ft.	Rs.
Timber ...	1886-87	841,	3,19,	3,536,	* 5,30,	727,	2,75,
	1885-86	761,	3,16,	2,261,	...	623,	1,77,
Firewood* ...	1886-87	1,625,	55,	2,261,	* 22,	2,717,	1,05,
	1885-86	1,134,	47,	2,254,	...	2,697,	1,17,
Grazing and minor produce.	1886-87	...	1,82,	...	1,45,	...	36,
	1885-86	...	1,83,	...	83,	...	67,

The return is favourable to the year under report, insomuch as it shows that a larger quantity of produce of all kinds has been extracted from the forests. Detailed comparison of the figures would, however, be of little use, as the free grants of wood and grazing to privileged villages, which are included in, and swell the totals for, the Oudh and School Circles, obscure the working results. Free grants are not shown in the figures for the Central Circle, with the exception of such green timber as finds an entry in the accounts on being made over to right-holders. The Conservator has, however, made a separate estimate of the value of the free grants in his Circle (paragraph 79), from which it would appear that Rs. 73,188† should be added on account of them to the total value of the "yield" shown in the above table, and that the cubic feet of firewood should be increased by 14 lakhs. Making this correction in the figures for the Central Circle, the yield in timber and fuel and the estimated total value of all the produce in each Circle in 1886-87 would be as follow :—

† i.e., Rs. 1,08,057, less Rs. 34,869 on account of timber-grants entered in the accounts.

Circles.	Cubic feet.	Value in Rupees.	Per square mile.	
			c. ft.	Rs.
Central	38½ lakhs.	0·20 lakhs.	2,166	350
Oudh	58 „	6·87 „	4,821	571
School	34½ „	4·47 „	4,281	555

The Central Circle would show better results if the 300 miles of forests in Bundelkhand, which yield as yet very little, were excluded.

21. To show the extent to which free grants and grazing rights enter into the above return of yield and value, the following table has been compiled from the information scattered through the reports. It separates the yield and value of the produce that will be or has been disposed of at market rates from the assumed yield and value of the

* These figures have been supplied by the Conservator, Oudh Circle. The estimated values shown in appendix B to the Oudh Circle report have been erroneously computed. The value of the "yield" of the year, including as it does much that is not disposed of till a future year, must necessarily be of the nature of a rough estimate.

produce enjoyed without payment by right-holders and privileged villagers. The latter is shown in block type :—

(000,s omitted from cubic feet and Rupees.)

	Central Circle.		*Oudh Circle.*		*School Circle.*	
	Cubic feet.	Rupees.	Cubic feet.	Rupees.	Cubic feet.	Rupees.
Timber ...	7,16,+ 1,25,	2,84,+ 35,	7,41,+27,95,	4,55,+ 65,	6,45,+ 82,	2,68,+ 8,
Firewood ...	16,25,+14,10,	55,+ 15,	11,46,+11,14,	15,+ 7,	7,48,+19,69,	44,+ 62,
Grazing and minor produce.	...	1,32,+ 58,	...	1,05,+ 40,	...	56,+ 8,
Free grants ...	15,35,	1,08,	39,09,	1,12,	20,51,	78,
Other than free grants.	23,41,	5,20,	18,87,	5,75,	13,93,	3,68,

The bottom row of figures represent the real yield of the year, so far as it results in actual income and directly arises from the efforts of the Department. According to these figures the real yield of the year per square mile was Rs. 477 in the Oudh Circle, Rs. 289 in the Central Circle, and Rs. 457 in the School Circle. The Oudh Circle on this comparison shows the best results, closely followed by the School. If, however, the expenditure be also taken into account, and the comparison be based on the net receipts for the last five years, the results are as follow :—Oudh Circle, net receipts Rs. 183 per square mile : Central, Rs. 137 : School, Rs. 59. The low place here taken by the School Circle is noticeable. In the first two years of the five, it had in fact an actual deficit.

22. The free grants shown in the above return represent no income, and the value assigned to them is purely nominal, though the existence of such privileges no doubt adversely affects the actual money receipts of the Circles. But it has to be remembered that outside purchasers would probably not be forthcoming for much of the dead wood, under-sized trees, grass, and grazing that form the produce which the villagers from time immemorial have drawn from the forests without restriction. Nor should it be overlooked that the stability of villages on the outskirts of the forests and their ability to pay the land-revenue assessed on the village lands often depend materially on their obtaining grazing, wood, and minor produce from the adjoining forests. The crops suffer from the depredations of wild animals sheltered by the forests, the villagers themselves struggle with malarious fevers and other incommodities produced or aggravated by strictly preserved woodlands, and any sudden tightening of the conditions which have hitherto regulated agriculture in such localities is not unlikely to result in the impoverishment or extinction of industrious communities. It is on these considerations that the Local Government in 1879, after a careful examination of the question, determined to continue to the Oudh villages within the "three-mile limit" the privileges about which the Conservator of the Oudh Circle now complains in his report. In the Pilibhit and Puranpur cases the rights were determined after definite inquiry. As to the alleged inutility of retaining these latter forests if the present rights are to continue unrestricted, it may be remarked that a considerable portion is closed absolutely against rights, and that Dr. Schlich, the late Inspector-

General of Forests, was of opinion that eventually the closed portion would ultimately repay the cost of maintaining the whole area Mr. Whittall, therefore, in the opinion of the Lieutenant-Governor and Chief Commissioner, takes a view of the situation that does not cover the whole ground, or comprehend all the considerations involved.

23 *Financial results* —The financial results of the year's operations are shown in the appended tables :—

Receipts, expenditure, and surplus

Circles.	Receipts					Expenditure					Surplus				
	1883-83	1883 84.	1884-85	1885 86.	1886-87	1883-83	1883-84.	1884-85	1885-86	1886-87	1883-83	1883-84.	1884-85	1885-86	1886-87.
	Rs.	Rs	Rs.	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
Central	4 14 003	5,94 780	4 93 407	4,43 139	5,78,080	2 66 646	2 65 893	2 61 918	2 64,479	2 77 117	1,37 255	2 08 888	2,30,888	1 78 654	2 00 906
Oudh	2 84,432	3,06 888	7 77 031	6 61 713	6 68 674	2 83 707	4 89 214	5 80 738	5 03 197	3 75 130	95 723	2 16 224	3 26 293	1 78 515	2 93 554
School	2,14,980	2,71,548	3 03 801	3 86 649	3,36,989	2 83 639	2,86,778	3 07,434	2,03,963	2,67,849	— 48 660	— 15 218	95,369	1,82,807	69,516
Total	10,13,408	13,11,228	15 73 219	14 61 494	15 72 556	8 79 034	10 41,884	10,30,109	9 74,618	9,19,980	1,74,279	5 69 489	5,53,217	4,86,976	6,43,976

Receipts and expenditure under the headings of departmental timber operations, other revenue, and formation, &c, of forests.

Circles.			*Departmental timber operations*			*Other revenue.*			Formation, protection, and improvement.	Net surplus.
			Receipts.	Charges	Surplus.	Receipts.	Charges.	Surplus		
			Rs.	Rs	Rs.	Rs	Rs.	Rs	Rs	Rs.
Central	1885-86	..	1,22,256	88,700	33,556	3,20,877	90,147	2,30,730	87,632	1,76,654
	1886-87	..	1,29,967	83,702	46,265	4,48,056	92,920	3,55,136	1,00,495	3,00,906
Oudh	1885-86	..	5,11,660	3,30,036	1,81,624	1,70,053	80,170	89,883	92 991	1,78,516
	1886-87	..	4,83,182	2 17,278	2,65,904	1,73,461	71,304	1,02,157	86,538	2,81,523
School	1885 86	..	1,80,673	78 777	1,01,866	1,56,006	35,675	1,20,331	98,391	1,29,806
	1886-87	..	2,11,045	1,43,489	68,156	1,25,214	32,931	92,283	90,923	69,516
Total	1885 86	..	8,14,559	4,95,513	3,19,046	6,46,936	2,05,992	4,40,944	2,78,014	4,86,976
	1886 87	..	8,24,794	4,44,469	3,80,325	7,46,731	1,97,155	5,49,576	2 77,956	6,51,945

Details of receipts under principal heads.

Circles	Timber and other produce removed from forests by Government agency.		Timber and other produce removed from the forests by consumers or purchasers		Confiscated drift and waif wood.		Forests not managed by Government.		Miscellaneous.		Total.
	1885-86	1886 87	1885 86	1886-87.	1885 86	1886 87	1885-86.	1886-87	1885 86	1886-87.	
	Rs.	Rs.	Rs.	Rs	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Central	1,22,256	1,29,967	3,12,260	4,39,533	1,458	1,129	...	...	7,150	7,494	4 43 139 5 79 089
Oudh	5,11,216	4,81,679	1,58,306	1,62,214	3,994	4,794	..	...	8,196	9,987	6,51 713 6 68 674
School ..	1,80,917	2,11,646	1,33,075	1,08,186	11,128	6,739	9,517	8,612	2,012	1,676	2 86 649 3,36,989
Total .	8,14,389	8,23,292	6,03,650	7,09,933	16,580	12,662	9,517	8,612	17,358	19,057	14,01 494 15,72,556

Expenditure on conservancy and works.

Circles.		Timber and other produce removed by Government agency.	Timber and other produce removed by consumers and purchasers.	Confiscated drift and wall wood.	Rent on leased forests.	Live-stock, stores, tools, and plant.	Communications and buildings.	Demarcation, improvement, and extension of forests.	Miscellaneous.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Central ...	1885-86 ...	52,044	21,867	1	952	9,096	37,658	24,609	2,675	1,48,902
	1886-87 ...	59,558	23,864	...	704	12,076	34,832	28,710	718	1,60,462
Oudh ...	1885-86 ...	3,23,996	11,756	464	...	7,958	26,985	25,045	2,399	3,98,583
	1886-87 ...	1,89,835	12,730	1,968	...	8,770	28,342	28,269	1,453	2,71,367
School ...	1885-86 ...	59,359	10,228	4,367	14,501	2,806	15,605	17,780	5,259	1,30,405
	1886-87 ...	1,27,926	5,948	3,942	14,501	4,276	18,592	13,800	6,433*	1,97,420
Total ...	1885-86 ...	4,35,399	43,851	4,832	15,453	19,860	80,248	67,434	10,263	6,77,840
	1886-87 ...	3,77,319	42,542	5,910	15,205	26,124	81,766	72,779	8,604	6,29,249

* Includes Rs. 3,374, being expenditure on forests not managed by Government.

Expenditure on establishments.

Circles.	Salaries.		Travelling allowances		Contingencies.		Total.	
	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.	1885-86.	1886-87.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Central	99,383	1,00,493	11,422	11,243	4,771	4,919	1,15,576	1,16,655
Oudh	85,930	85,242	13,836	13,457	4,908	5,053	1,04,664	1,03,752
School	62,661	58,386	7,510	6,323	6,266	5,214	76,437	69,923
Total ...	2,47,974	2,44,121	32,758	31,023	15,945	15,186	2,96,677	2,90,330

24. The gross receipts for the three Circles were Rs. 15,73,556 against Rs. 14,61,494 in 1885-86, and the expenditure Rs. 9,19,580 against Rs. 9,74,518. The net surplus was Rs. 6,53,976, or Rs. 1,67,000 more than in 1885-86. The year was thus the most profitable that the Department has known. The gross receipts were larger in 1883-84, owing to the large departmental sleeper works on foot in the Oudh and Central Circles; but the expenditure was also greater. In the year under report the expenditure was lower than in any year since 1882-83. It will be shown below that part of the gross receipts really represented stocks prepared or disposed of in the previous year, and that the reduced expenditure means that less labour was employed departmentally. The surplus, therefore, is to some extent fortuitous, and may not be worked up to in future.

25. Taking first the Central Circle, the receipts were Rs. 5,78,023 against Rs. 4,43,133 in 1885-86: the charges Rs. 2,77,117 against Rs. 2,64,479; and the surplus Rs. 3,00,906 against Rs. 1,78,654: of the gross receipts, departmental operations yielded Rs. 1,29,967 against Rs. 1,22,256 in 1885-86. The charges under this head aggregated

Rs. 83,702 against Rs. 86,700. Deducting the receipts of departmental operations, the revenue from other sources amounted to Rs. 4,48,056 against Rs. 3,20,877 in 1885-86. The chief items were (*a*) for timber removed by purchasers Rs. 2,50,890 against Rs. 1,76,066 in 1885-86; (*b*) bamboos, Rs. 97,515 against Rs. 72,052; (*c*) grazing and fodder grass, Rs. 24,857 against Rs. 27,721; (*d*) other minor produce, Rs. 51,296 against Rs. 26,744. The items which chiefly contribute to the surplus of the year are thus (*a*), (*b*), and (*c*). With regard to (*a*) it is explained that about Rs. 48,000 represents collections on timber cut by purchasers in 1885-86, but not removed, owing to bad weather, until April and May, 1886. The large receipts from bamboos were due to an unusual demand, while the excess under "minor produce" partly represents a real and satisfactory increase in the demand, and partly an exceptional payment on account of 1885-86. The real increase in the net receipts of the Circle is, therefore, not so great as the figures show; but it evidences a steady improvement, which is creditable to Mr. Bagshawe and his subordinates. The expenditure appears to have been carefully kept down.

26. The receipts of the Oudh Circle were Rs. 6,58,674 against Rs. 6,81,712 in 1885-86; the charges Rs. 3,75,120 against Rs. 5,03,197; and the surplus Rs. 2,83,554 against Rs. 1,78,516. Of the gross receipts Rs. 4,83,182 were derived from departmental operations, against Rs. 5,11,660 in 1885-86: the charges under this head were Rs. 2,17,278 against Rs. 3,30,036; and the net receipts Rs. 2,65,904 against Rs. 1,81,624. Thus the gross receipts were little short of those of 1885-86 while the charges were less by more than a lakh. The Conservator's explanation is less full than might be wished, though he discusses in considerable detail the earnings and charges of each of the divisions for the last 10 years with the object of showing that two are worked at a loss for the benefit of adjoining right-holders. Such discussions, though by no means without their value, are somewhat out of place in an annual report. In last year's report it was stated that the receipts of the Oudh Circle would have been larger had credit been allowed for a sum of Rs. 59,059 paid in at the very end of the year by the State Railways. It was also said that the "assets," that is, the stocks of timber in the depôts, had considerably increased during 1885-86. The present report does not state how far the larger receipts and the smaller out-goings of 1886-87 were due to the recovery of old debts and the utilization of old stocks. It has, however, been ascertained from Mr. Whittall, that the receipts for 1886-87 include the Rs. 59,059 which ought to have appeared in the accounts for the previous year; and also a further sum of Rs. 47,611* in respect of other outstanding debts. Against these extraneous credits is to be set the fact that at the beginning of the year the Circle owed sleepers to the value of Rs. 97,404 for money already advanced by certain railways, and that by the end of the year this liability had been reduced to Rs. 36,496. Thus the net extraneous credits are reduced to Rs. 45,762, and the normal receipts of the year become Rs. 6,13,000 instead of Rs. 6,58,674. Owing to the great reduction in charges—chiefly in respect of temporary establishments and daily labour—even these

* *Vide* Form No. 60.

smaller receipts yield a larger surplus than was really earned in 1885-86. The reduction in charges, however, is in a great measure due to the large stocks accumulated in that and previous years which it has been the policy of Mr. Whittall to reduce during 1886-87. Thus only 354,076 cubic feet of timber were added to stock during the year, while 686,997 were disposed of. According to appendix III, the reduction in the value of stocks or assets at the close of the year compared with the beginning was Rs. 1,12,894. This throws material light on the prosperous finance of the year. The Conservator considers the results very favourable, and they are undoubtedly creditable to his management. But indications are not wanting that, with the cessation of the large demand for sleepers, there may be a difficulty in maintaining in future the earnings of previous years from departmental timber operations. The receipts of the Circle, however, from firewood and other like produce, should improve when the Lucknow-Sitapur-Kheri Railway is opened this year up to Gola Gokarnath in the Kheri district. The fuel and second-rate timber of the Bhira forest will then be within easy distance of this terminus, and may, it is hoped, find a market in Lucknow and other large towns. When the railway reaches Seramau, so as to skirt the forests, these facilities will proportionally increase, while a branch line northwards to the Sarda would tap the resources of the richer sál forests on the further bank of that river. The development of the receipts on account of "minor produce" is satisfactory: bamboos realized Rs. 50,271 against Rs. 41,308, and grazing and fodder grass Rs. 51,091 against Rs. 41,308 in 1885-86. The receipts for timber and fuel removed from the forests by purchasers were, however, even less than in 1885-86, being Rs. 60,851 against Rs. 74,866. This is in striking contrast with the 2¼ lakhs annually realized under this head in the Central Circle. The Lieutenant-Governor and Chief Commissioner again records his opinion that the restriction of departmental operations and the encouragement of the contractor is the proper policy for the Oudh Circle. Mr. Whittall in a great measure shares these views, as he shows (paragraph 116) that it pays better to sell fellings on the spot, and to leave the removal to timber merchants. There is no reason why even the fellings should not in many cases be done by the latter, the Department marking the trees beforehand, and exercising due supervision throughout. The Lieutenant-Governor and Chief Commissioner is pleased to notice that the large advances (Rs. 1,57,000) to contractors outstanding at the end of 1885-86 have been reduced to Rs. 66,000.

27. The receipts from the School Circle were Rs. 3,36,859 against Rs. 3,36,649 in 1885-86: the expenditure Rs. 2,67,343 against Rs. 2,06,842, and the surplus Rs. 69,516 against Rs. 1,29,807. The progress noticed in last year's review has not been maintained in this Circle. Departmental operations, by which is chiefly meant sleeper works, were less profitable, as owing to competition with private forests, lower rates had to be accepted from the Railway Companies. Of the gross receipts, departmental operations yielded Rs. 2,11,645 against Rs. 1,43,489 in 1885-86: the charges under this head being Rs. 1,43,489 against

Rs 78,777 in 1885-86. The net surplus from departmental operations was, therefore, only Rs. 68,156. It is very questionable whether at present rates there is any profit to be made out of sleeper contracts; while it is certain that they make disproportionate calls on the time and energies of the forest staff. The revenue from "other sources" also fell off, owing to reduced sales of timber in the Dehra Dún division, and of bamboo in the Sahárunpur division. Expenditure in the Dehra Dún division stands in urgent need of reduction. Large sums had been spent on roads, forest bungalows, and buildings which are scarcely justified either by the present yield or future prospects of the forests. The Director will be asked to take this matter into early consideration.

28. *General.*—The Lieutenant-Governor and Chief Commissioner has little to add to the statement given in the concluding paragraphs of the review for 1885-86 of the forest policy of the Government. Sir Alfred Lyall desires to afford the Forest Officer within due limits all the assistance that the law or the executive authorities can give in protecting and improving the forests and securing the conditions requisite for regular reproduction. The permanent economical interests of these Provinces, and the provincial finances, benefit so manifestly by the preservation of forests and the development of forest revenue, that these matters must always be of primary administrative importance. On the other hand, it has always been the policy of the Government to take account of, and to recognize, the admitted claims of the people residing near, and in a measure dependent on, the forests, and to adjust the operations of the Department to the present conditions of agriculture and pasturage. Where the margin of agriculture touches the forest tracts, private rights come inevitably into contact with the public estate; and upon such border lands it is necessary and expedient to manage by gradations the transition from the absolutely open forest to the closed and artificially managed "reserve." Sir Alfred Lyall has pleasure in acknowledging the general spirit of fair compromise and consideration with which the officers of the Department have endeavoured to give effect to this policy, and the care and ability with which the heavy work of the year has been carried on. To this, and to the skill and experience which the chief officers of the Department have brought to bear upon their work, the Lieutenant-Governor attributes mainly whatever success may have attended the administration of the Forests during his term of office.

T. W. HOLDERNESS,

Secy. to Govt., N.-W. P. and Oudh.

No. $\frac{517F.}{600-0}$.

ORDER.—Ordered that a copy of the above Resolution (with copy of the Report) be forwarded to the Conservators of Forests, Central, Oudh, and School Circles, for information and guidance.

No. 518F.
699—6.

Ordered also that copy (with copy of Report) be forwarded to the Commissioners of the Meerut, Benares, Jhánsi, Rohilkhand; Allahabad, Kumaun, Sitapur, and Fyzabad Divisions, for information.

No. 519F.
699—7.

Ordered also that copy (with copy of Report) be forwarded to the Comptroller-General, Calcutta, for information.

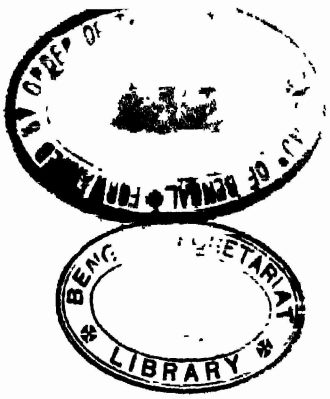
No. 520F.
699—8.

Ordered also that copy (with copy of Report) be forwarded to the Inspector-General of Forests, for information.

By order, &c.,

T. W. HOLDERNESS,

Secy. to Govt., N.-W. P. and Oudh.



N.-W. P. AND OUDH

FOREST DEPARTMENT.

ANNUAL PROGRESS REPORT OF ADMINISTRATION

FOR THE YEAR ENDING 31ST MARCH, 1888.

BENGAL SECRETARIAT LIBRARY

No. 47 of 1888-89

FROM

C. BAGSHAWE, ESQ.,

Offg. Conservator of Forests, Central Circle, N.-W. P. and Oudh,

To

THE SECRETARY TO GOVERNMENT, N.-W. P. AND OUDH,
REVENUE (FORESTS) DEPARTMENT *Naini Tál.*

DATED NAINI TÁL, THE 9TH JULY, 1888.

SIR,

I HAVE the honor to submit the annual Progress Report on Forest Administration in the Central Circle for 1887-88.

I have the honor to be,

SIR,

Your most obedient servant,

C. BAGSHAWE,

Offg. Conservator of Forests, Central Circle.

CENTRAL CIRCLE REPORT.

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CENTRAL CIRCLE.

N.-W. PROVINCES AND OUDH.

ANNUAL PROGRESS REPORT

OF

FOREST ADMINISTRATION

FOR THE YEAR ENDING 31st MARCH, 1888.

By C Bagshawe, Esq., Officiating Conservator of Forests, Central Circle.

INTRODUCTION.

During the past year satisfactory progress has been attained in nearly every branch of forest management, the area under fire conservancy has been increased, new forest tracts have been opened up, the demand for our chief products has been steady, and though the revenue is less in amount than in 1886-87, the expenditure has been reduced and the average receipts, both gross and net, are higher than in past years.

2. The administration of the Cantonment Forests in Ránikhet has been undertaken by the Forest Department, and at the request of the Military Department the Officer Commanding the new hill cantonment of Kalandanda has been advised as to the management of the forests in his charge.

The proposals for working the Bánda forests are still under consideration, but an early settlement is expected.

CHAPTER I.

AREA AND BOUNDARIES.

1.—Area.

3. The areas of the different classes of forests in the circle at the beginning and the close of the year were as follows :—

Divisions	Area on the 1st April, 1887	Added during 1887-88	Excluded during 1887-88	Area on the 31st March, 1888
	Square miles	Sq mls A R P	Sq mls A R P	Square Miles
Naini Tál ..	42		..	42
Kumaun	535			535
Garhwál ..	500			500
Ganges	349			349
Jhansi ..	37	1 457 0 0	0 40 0 0	38
Lalitpur	140	..	..	140
Banda ..	..		.	
Total area, Reserved Forests,	1,603	1 457 0 0	0 40 0 0	1,804
Naini Tál	69		..	69
Kumaun			...	...
Garhwal	..		...	..
Ganges	...	...	.	...
Jhánsi	...	..		..
Lalitpur ..	4	..	...	4
Bánda	...	..	...	
Total area of Protected Forests	73	.		73
Banda ..	118	..	..	118
Total area of unclassed State forests and waste lands	118	...		118
Grand Total all Forests,	1,794			1,795

In Jhánsi four acres were transferred to the Midland Railway, and 36 acres to His Highness the Máhárája of Gwalior in connection with the exchanges of territory near Jhánsi. The Bajna Hill Forest, which forms part of the territory ceded by Gwalior, has been declared a reserve free of any rights.

4. The final notification in connection with the reservation of the proposed reserves of Naini Tál, Dabka, Dechauri, and Fatehpur has not been issued, as the revision of the record-of-rights in these forests has occupied a longer time than was expected. The work is now nearly completed and the notification under section 19 of the Indian Forest Act will, it is hoped, shortly be made.

The settlements of the proposed reserves of Gagar and Ninglat was delayed by the changes in the office of the Assistant Commissioner, Naini Tál, the Assistant Commissioner having been appointed *ex-officio* Forest Settlement Officer. The settlement was started in March, and work in the Ninglat Forest has been completed, with the exception of some appeals. The settlement of the Gagar Forest has been postponed until October.

These six forests are under the management of the Forest Department, and the delay in their final settlement is preferable to closing the settlements before thoroughly satisfactory arrangements have been made.

5. No final steps to notify additional areas as reserved forests have been taken, but the reservation of the Dolmar-Morar chir forest near Naini Tál and of some forest areas near the Gurkha Cantonment of Kalandanda in Garhwál, north of our present reserves, is under consideration.

The chir forests on the Alaknanda, referred to last year, have been inspected. It is believed that no extensive areas can be reserved. The forests on the Mandakni and at the head of the Alaknanda still have to be examined.

The reservation of unclassed State forests in Bánda is under discussion, while the Collector hopes to be able to add to the forest area in the Badausa tahsíl, where at present we have only 10 square miles of forest under management.

2.—Boundaries.

6. The boundaries of forests are generally in a satisfactory condition, and the oborders regarding the inspection and maintenance of pillars and lines have been observed.

7. **Naini Tál Division.**—Existing pillars have been maintained. The boundary with the Naini Tál settlement has been more clearly defined by the erection of municipal boundary pillars. At Ránikhet the boundary of the reserve with the Ránikhet-Chaubattia Cantonment has been revised to make the boundary run straight from pillar to pillar instead of along contour lines on the hill-side. The pillars have been built by the Military Department, but final orders by the Government of India have not yet been passed on the report submitting the result of the demarcation.

In the Naini Tál Reserve six additional village pillars have been built. In consequence of the abandonment of the proposed Khurpa Tál Gurkha Cantonment an additional village plot has been demarcated since the close of the year, so that the final number of pillars cannot be given. The expenditure on demarcation was Rs. 284.

8. **Kumaun Division.**—The boundary is well defined; pillars have been repaired and renewed at a charge of Rs. 152-7-6.

9. **Garhwal Division.**—The boundaries are in a satisfactory state, with the exception of the boundary of Rehar Forest, where the pillars erected in 1879-80 have never been finally passed as correct by the Revenue authorities. The western boundary of Rehar marches with the Káshipur estate, and Kunwar Karam Singh doubts the correctness of the position of nine pillars. Steps have been taken to check the

boundary and no difficulty is anticipated. All pillars and lines have been maintained for Rs. 87.

10 **Ganges Division.**—The Chandi (Bijnor) boundary case has been brought to a satisfactory conclusion. A series of exchanges have been arranged with Mr. Tresham, the owner of Peli, and with the villagers of Methiberi and Naluwála, while the boundary with Dudla Dyalwála has been rectified. By these arrangements the forest boundary with these villages will run in straight lines, save where rivers form the boundary. The necessary line-cutting was started in March, but was not completed at the close of the year. As soon as the work is completed and the areas of land acquired from the villages ascertained, steps will be taken to reserve the land under chapter 2 of the Forest Act.

The indefinite boundary in Udepur has been satisfactorily laid down by the divisional and district officers.

At the close of the year the Landhaura Ránis (Saháranpur) gave notice, under the Civil Procedure Code, of their intention to institute a suit for the recovery of certain islands in the Ganges which form part of the Chandi Reserve, but which, they assert, form part of their estate. An application on their behalf for the demarcation of these islands as part of their estate was previously rejected and Government declared to be in possession of the islands. Legal opinion taken on the subject of this dispute is favourable to Government. The boundary pillars have been maintained for Rs. 15-4-0.

11. **Jhánsi Division.**—The boundary marks of the forests are generally in good condition, but the pillaring of Bajna and annual repairs at an estimated cost of Rs. 346-4-0 was in progress at the close of the year.

12. **Lalitpur Division.**—All the pillars were in good order and no repairs were made.

13. **Bánda Division.**—The boundary pillars are in good order. Two additional pillars were erected on the boundary with the Paldeo State, where an attempt to encroach on the forests was recently made. Thirty-nine and a half miles of boundary line were cleared for Rs. 74-8-0, a satisfactory piece of work done at a low rate. In future it is proposed to clear the one-fifth of the boundary line every year.

CHAPTER II.

SURVEYS, WORKING PLANS, AND ANNUAL PLANS OF OPERATIONS.

1.—Surveys.

14. The following work has been carried out during the year :—

Forest Survey—

(*a*)—Boundary survey of the Naini Tál and other proposed reserves formed from the late Kumaun Iron Company's Grant completed.

(*b*)—Survey (4" scale) of Gugar and Ninglat (Naini Tál) completed, save entry of village pillars.

(*c*)—Boundary survey of parts of Chandi and Udepur Forests, Ganges Division, sanctioned and begun.

(*d*)—Survey (4" scale) of Dolmar-Morar Forest (Naini Tál) sanctioned.

(*e*)—4" map sheets, Kumaun and Garhwál survey—

Previously issued, 66 sheets.
Issued during year, 8 sheets.
Due, 7 sheets as follows :—
Kumaun Division, Nos. 75 and 76.
Ganges Division, Nos. 3, 5, 6, 7 and 11.

The missing sheets are urgently required.

(*f*)—2″ reductions of 4″ survey, Kumaun and Garhwál—

Previously issued, 27 sheets.
Received during year, 3 sheets.

(*g*)—6″ reprint of Ránikhet Cantonment Forests supplied. A new map will be very useful to all departments, as the present map is a very bad one.

Revenue Survey.—4″ maps of Bánda, Nos. 93 and 108 still due. The 1½″ skeleton maps of the Jhánsi and Lalitpur forests are of little use, and I am glad to hear a new survey of these districts is to be made.

2.—Working Plans and Plans of Operations.

15. The permanent working plans for the three working circles of Ránikhet, Naini Tál, and Nindhaur have been revised and sanctioned. The Ganges working plan is still under consideration.

No new permanent working plans have been taken in hand or proposed.

A temporary working plan for the Ránikhet Cantonment Forests drawn up last year by Mr. Braidwood has been revised and sanctioned.

Work has been begun on temporary working plans for the Rehar and Kohtri Palain Forests in the Garhwál and Ganges Divisions.

Similar plans for the South Patli Dún and Garhibulchand in Garhwál and Chaunsila, Horai and Lachmanmandi in Kumaun, have been discussed. Special aid must be afforded to divisional officers for this class of work, and it is hoped that in 1888-89 arrangements will be made to meet the demand.

The formation of small working circles and the introduction of simple working plans based on sound principles must facilitate the working of the forests and increase the revenue.

3.—Plans of Operations.

16. Annual plans of operations are drawn up for all forests in the Circle, but with reference to about 564 square miles, they are regulated by permanent or temporary working plans.

It has been deemed better to draw up plans of operations which represent a programme of the maximum amount of work possible rather than of the minimum amount which is sure to be executed. The following notes, therefore, show more works unexecuted than usual; but any objection to this method is removed by undisposed of items being carried forward to the following year—

17. **Naini Tál Division.**—All the work proposed was carried out save demarcation work and paths in the new reserves, where settlement work was unavoidably postponed, and demarcation, &c., delayed in consequence.

18. **Kumaun Division.**—New works added to the plan and works partially done or left undone were as follows:—

Fire conservancy.

Caubainsi Range.—Nandhaur Working Circle, Durga Pipal block, compartments 9, 10 and 11 protected in addition to area proposed. Clearing of Deolagadh block fire lines pushed on, but bakli trees could not be removed, as there was no demand for the wood.

Communications.

Nihal Range—Chunakhan road aligned, but not made. Jálaban-Haldwa road aligned, but not made. Kailkhur road scheme for present abandoned.

Chaubainsi Range.—Renewal of Aonlakhera bridge deferred. Dandakatauta road added to plan and made (3¼ miles long). A line for the Katolkalaunia road was prospected for, but the proposed route found impracticable for the construction of a road at any reasonable cost An alternative route *viâ* Patkholi and the Kaladeo pass to Dogri was proposed, and it is hoped the road will be laid out and made in 1888-89.

Buildings.

Nihal Range—Ranger's quarters made in addition to plan.

Chaubainsi Range—Horai 3rd class house site selected, erection deferred. Dhanaur Chaur 3rd class house added to plan and nearly completed. Dandakatauta 2nd class house added to plan and nearly completed.

Talla Des Range.—A well at Kilpura added to plan and nearly finished.

Experimental Departmental Thinnings.—

Nihal Range—Delayed owing to changes among Range officers; poles marked later in season, but not sold until after the year closed.

Chaubainsi Range.—Lachmanmandi thinnings curtailed owing tshor to demand.

Talla Des Range—Deolagadh thinnings curtailed, as clearing fire lines supplied the market.

19. **Garhwal Division.**—Communications.

Patli Dún Range—Mandal road, construction deferred for lack of funds.

Buildings.

Revenue Range—Haldua Depôt building deferred for lack of funds.

20. **Ganges Division.**—Works of protection.

Gori Range.—Fire protection in Andher Majhera block extended to Dogaddi-Mandal road in addition to previous proposals.

Creeper-cutting.

Kotri Range—Work in Dimki begun, but not completed by close of year.

MEASUREMENT OF GROWTH OF SÁL.

Gori Range—Chila specimen plot not marked off for lack of time (work done since close of year).

Communications.

Kotri Range—Construction of Motasal-Halduwála path deferred.

Miscellaneous work.

Udepur Range—Papidanda well deferred, as no contractor would work at fair rates.

21. **Jhansi Division.**—The proposals made regarding works were carried out.

22. **Lalitpur Division**—The proposals of the plan of operations were carried out save under the head bamboos and timber, where work was reduced in consequence of a reduced demand.

23. **Banda Division.**—Boundary—Thirty-nine instead of 57 miles of boundary line were cleared. In previous years contractors did the work and took as payment the wood cut; this year the lines being far from the railway, the Department had to cut the lines and more work could not be done.

Communications.—The repair of the Kalianpur road from forest funds was not found necessary.

CHAPTER III.

1.—Protection and Improvement.

24. The charge of the Circle during the year was held by the writer of this report.

25. Charge of the Different divisions was held as follows:—

Naini Tál	Mr John Braidwood, Deputy Conservator, 3rd grade	Throughout the year
Kumaun	Mr F B Bryant, Officiating Deputy Conservator, 4th grade	1st April to 12th August, 1887
Ditto	Lieut Colonel Campbell Deputy Conservator, 2nd grade,	13th August to 10th September, 1887
Ditto	Mr J M Blanchfield, Sub Assistant Conservator	11th September to 9th October, 1887
Ditto	Lieut Colonel Campbell, Deputy Conservator, 2nd grade	10th October, 1887 to 31st March, 1888
Garhwál	Mr S Eardley Wilmot, Officiating Deputy Conservator, 3rd grade	1st April to 12th August, 1887
Ditto	Mr F B Bryant, Officiating Deputy Conservator, 4th grade	13th August, 1887 to 31st March 1888
Ganges	Mr W Ibbetson, Deputy Conservator, 1st grade	1st April to 4th November, 1887
Ditto	Mr J M Blanchfield, Sub Assistant Conservator	5th November to 18th December, 1887
Ditto	Mr A F Broun, Officiating Deputy Conservator, 4th grade	19th December, 1887 to 31st March, 1888
Jhánsi	R G Hardy, Esq, C S, Deputy Commissioner, assisted by J A Broun, Esq, C S, Assistant Commissioner	Throughout the year
Lalitpur	Colonel Liston, Deputy Commissioner, assisted by J V. Sturt, Esq Assistant Commissioner	1st to 18th April, 1887
	And by Sah Sayad Muhammad Tahir Alam, Extra Assistant Commissioner	From 19th April to 20th September, 1887.
Banda	H Fraser, Esq, C S, Collector	1st April to 29th November, 1887
Ditto	J. White, Esq, C S, Collector	30th November, 1887 to 26th March, 1888
Ditto	H Fraser, Esq, C S, Collector	27th March to 31st March, 1888
	Assisted by C L M Eales, Esq C S Joint Magistrate and Assistant Collector, Karwi Sub division	Throughout the year

26 The grants for protective and office establishments were distributed as follows at the close of the year. The actual strength on 31st March and cost of maintenance was as follows:—

Division.	Executive and Protective Establishment.							Office Establishment.						
	Permanent sanction per annum.	Temporary sanction per annum.	Total sanction as it stood on 31st March, 1888.	Actual charges.				Permanent sanction per annum.	Temporary sanction per annum.	Total sanction as it stood on 31st March, 1888.	Actual charges.			
				1886-87.		1887-88.					1886-87.		1887-88.	
	Rs.	Rs.	Rs.	No.	Rs.	No.	Rs.	Rs.	Rs.	Rs.	No.	Rs.	No.	Rs.
Direction	...	...	...	...	...	...	...	3,756	18	3,774	7	3,774	7	3,780
Naini Tál	3,564	1,416	4,980	56	4,890	53	4,723	840	240	1,080	3	840	3	1,077
Kumaon	8,844	6,018	14,862	150	13,526	136	13,363	2,136	...	2,136	6	2,094	6	2,135
Garhwál	10,824	6,522	17,346	151	14,705	159	15,862	1,896	...	1,896	6	1,896	6	1,895
Ganges	6,744	8,998	15,742	162	12,771	164	13,480	1,392	...	1,392	5	1,392	5	1,380
Jhánsi	1,164	216	1,380	19	1,318	19	1,373	60	...	60	1	57	1	60
Lalitpur	1,680	192	1,872	17	1,707	21	1,818	204	..	204	2	202	2	204
Bánda	1,440	96	1,536	11	1,309	13	1,522	780	..	780	3	780	3	780
Unallotted	900	...	900	...	...	...	...	...	...	...	..	...	...	...
Total	35,160	23,458	58,618	566	50,226	565	52,171	11,064	258	11,322	33	11,035	33	11,311

The savings were due to the usual grant of recess leave on half pay, and to certain posts being kept vacant pending trained Rangers becoming available for appointment.

27. Fair progress has been made in training upper subordinates. Foresters Badri Datt and Apprentices Gajadhar and Manawar Singh have gained the Forester's certificate.

Forester Ram Parshad failed in the final examination, and as his general abilities seem insufficient, he has been sent back to his Division.

Probationer Parshadi Lal and Apprentice Jodh Singh Thakur joined the School in July, 1887. Mr. Martin and Babu Krishna Nand Joshi have been appointed as probationers.

The appointment of two probationers in 1888 is proposed.

Up to date, therefore, seven men have passed out of the School, four of whom have been posted to range charges, two are in charge of beats, and one on special duty.

Two men are at the School and four men will join in due course, giving a total of twelve men trained or under training, while, in addition to the above, two men have been dismissed, one was remanded to his Division, and one died. It is too early to form a definite opinion of the merits of our School men. The Director reports well on those at the School, while Divisional Officers report highly of Forest Ranger Chintamani and Forester Badri Datt, and very well of Mr. Martin, probationer, while no one has been badly reported on.

The progress made is satisfactory, as it must take some years to obtain a reliable staff of trained range officers.

28. There are at present twenty ranges in the Circle which are held as follows :—

		Range No.
Forest Ranger,	3rd grade ...	1
Ditto,	5th ditto ...	2
Ditto,	6th ditto ...	1
Foresters,	1st ditto ...	6
ditto,	2nd ditto ...	2
ditto,	3rd ditto ..	3
ditto,	4th ditto ..	3
ditto,	5th ditto ...	1
ditto,	6th ditto ...	1

In the Naini Tál Division two of the range officers are very inefficient, but it is very difficult to remove men of long service whose pension is not due. Range Officers Budhi Ballabh and Debu are highly commended.

In the Kumaon Division the range officers are well reported on.

In the Garhwál Division two range officers are very well reported on; two have worked fairly.

In the Ganges Division, owing to changes early in the season, some of the range officers worked under difficulties, and though all worked fairly, no one is highly commended.

In Jhánsi and Lalitpur the Foresters have worked well and merit promotion.

In Bánda, the Collector reports that, though well meaning, the Forester has not received sufficient education. The work at least demands a trained Ranger and the appointment of a Sub-Assistant would soon be repaid by enhanced receipts.

The staff of foresters and forest guards is generally well reported on, though here as elsewhere considerable improvement is aimed at.

2.—General Protection and Breaches of the Forest Law and Penal Code.

29. The protection of the forests from encroachment and from other injuries has on the whole been successful, and special attention has been directed to the control of rights and privileges.

The following is an abstract of the returns of cases under the Forest Act or rules and of forest cases in Bánda dealt with under the Penal Code :—

Divisions.	Year	Cases before the courts, including cases pending from the previous year	Prosecutions.				Cases pending		Remarks.	Cases compounded by Divisional Officers under section 67, Indian Forest Act		
			Convictions		Acquittals					Cases.	Persons.	Amount received in compensation.
			Cases.	Persons	Cases	Persons.	Cases	Persons				Rs.
Naini Tal	1886-87	109	64	97	45	99		...	Divisional Officer, 70 cases; Cantonment Magistrate, 39 cases	318	460	719
	1887-88	38	19	37	19	48	...	...	Divisional Officer, 17 cases; Cantonment Magistrate, 21 cases.	355	606	688
Kumaun	1886-87 ...	2	1	1	1	1	...	...	District Officer	96	131	502
	1887-88	2	2	11	...	...	...	...	Ditto	34	57	370
Garhwál	1886-87	2	1	4	...	...	1	13	Divisional Officer, one case; District Officer, one case pending.	64	100	428
	1887-88	2	...	...	1	13	1	2	District Officer pending	58	90	468
Ganges	1886-87 ...	6	1	1	2	3	*3	3	District Officer	81	90	592
	1887-88 ..	8	6	7	1	5	1	1	Ditto	78	99	663
Jhánsi	1886-87 ..	7	7	25	.	...	.	...	Ditto	...	...	...
	1887 88 ..	3	3	5	.	...	...	...	Ditto	...		..
Lahtpur	1886-87 ...	5	5	8	...	...	...	...	Ditto	4	4	15
	1887 88	14	10	22	4	5	...	...	Ditto	3	26	67
Bánda	1886 87 ...	16	15	27	1	1	...	...	Ditto	.	...	..
	1887 88	9	9	14	...	1	...	...	Ditto	.	...	. .
Total	1886-87	147	94	163	49	104	4	16		563	785	2,256
	1887 88	76	49	96	25	72	2	3		528	880	2,256

*One of these cases, on account of arrears of revenue, should not have been shown in this form, as no court was moved in the matter.

In 1887-88 as compared with the previous year the number of cases in court has fallen 48 per cent., the persons concerned have decreased 41 per cent., the percentage of convictions has risen from 63·9 to 75.

The cases compounded have fallen 6 per cent., the persons concerned increased 12 per cent; while the average amount realized from each individual has fallen from Rs. 2 87 to Rs. 2 57.

The difference between the two years is not very marked.

In the Naini Tál Division the cases in court have decreased owing to the Rámikhet Reserve having, as an experiment, been thrown open for grass-cutting save during the fire season; so that there has been little temptation to export grass illicitly. The cases compounded in this Division are returned as follows:—

	Cases
Lopping branches or cutting trees	233
Grazing in closed forest	15
Cutting grass ditto	38
Burning forest	13
Miscellaneous	56

Considering that in the Naini Tál Forests alone some 600 men are, during many months, working daily in the forests, the comparatively small amount of injury done deserves note.

In the Kumaun Division the decrease is chiefly due to the better observance of forest rules by the residents of cattle-stations.

In Garhwál and the Ganges the main offences were over-cutting of bamboos or petty illicit export and call for no special note.

In Jhánsi and Bánda the number of cases was about the average.

In Lalitpur the increase may be traced to the advent of large numbers of outside labourers. Three cases of unauthorized felling in Lalitpur were compounded.

3.—Protection from Fire.

30. The results of the fire conservancy of the year will be recorded in an appendix, so as to avoid delay in printing this report.

4.—Grazing and Fencing.

31. I give in Appendix E. a statement of the areas closed to grazing or only grazed over by exporters' cattle, as it will be useful in future to give the yearly variations in a form During the year 24·89 per cent. of the total area was closed, compared to 17 01 per cent. in 1886-87. The grazing and grass sales of the year compare as follows:—

	1886-87	1887-88	*Increase*	*Decrease*
	Rs	Rs	Rs	Rs
Grazing ...	19,714	18,692	...	1,022
Grass sales ...	5,144	5,938	794	..
Total ...	24,858	24,630		228

32. In Naini Tal the closed area was increased by the addition of the China plantations, 77 acres. Since the close of the year Government has sanctioned the introduction in the Rámikhet protected forests of the system of closure by rotation, referred to in paragraph 31 of the 1886-87 report. Under these orders one-eighth of the area will be closed for 20-year periods.

In the Naini Tál protected forests the grazing is not excessive.

The fencing in Rámikhet was under repair at the close of the year and is in good order.

33. In the Kumaun Division only slight changes in the closed area have been made.

In the Lachmanmandi forest, where nominally light grazing was doing damage, steps have been taken to wire-fence the exposed portions. With this exception, the protection from grazing is satisfactory.

34. In Garhwál there has been an increase of 17,524 acres in the closed area. The grazing rules for Bhotias have worked well.

35. In the Ganges Division the increase in area is 7,320 acres, and over-grazing by Gujar buffaloes has been stopped by the reduction of the head of cattle allowed to enter the forest.

The Deoli village grazing dispute referred to in paragraph 35 has been practically settled in favour of Government, but final orders on the case have not yet been issued.

36. In the Jhánsi Division the area closed for fodder has been increased, and the grass sales have risen owing to the increase in the Jhánsi garrison.

As a rule the Jhánsi reserves are not over-grazed.

37. In the Lalitpur Division the area has increased, and steps have been taken to add to the grass reserves near Lalitpur.

The ample grazing in village lands has, as in Jhánsi, prevented over-grazing in the reserves.

38. In Bánda no change has been made in the orders regarding grazing; over-grazing is exceptional, and is chiefly confined to the Manikpur forests.

5.—Natural Reproduction.

39. The past year has not been notable for any special fall of seed, and the production of sál seed, save in the Ganges Division, has been somewhat below the average.

In Naini Túl chír did not seed freely, but a large number of yearling seedlings are to be seen in the areas at Ránikhet burnt last year. The damage done to the Ránikhet reserve by the fire of May 1887 is very extensive, and it may be said that all young chír of nine years of age and less were destroyed.

The effects of the fire varied with the amount of exposure to the violent west wind blowing at the time of the fire. The young oaks, aiyar, rhododendron, and other broad-leaved trees have all thrown up shoots from the roots, but, save in sheltered localities, all the young pines have been killed.

In Kumaun and Garhwál the removal of old unsound trees which retarded young growth has been pushed on, and in the south Patli Dún a considerable area has been felled over.

In the Ganges Division Mr. Broun describes the satisfactory progress in the advance growth of sál, &c., noticed by him since his first acquaintance with these forests in 1884. Frost has again done much damage in all the lower forests of the submontane Divisions and in the Kotri Dún.

In Jhánsi and Lalitpur, in the areas not damaged by fire, the reproduction is good. In Jhánsi an apparently widely-spread increase in the growth of khair is noticeable.

In Bánda the results of general protection are satisfactory and already repay the trouble taken by District Officers to rescue these forests from the destruction now so marked in most of the village forests.

6.—Artificial Reproduction.

40. The only important works of artificial reproduction in the Circle are :—

(*a*) Cultural operations in Naini Tal to make good blanks in the forests, and in Jhánsi to improve the stock by introducing teak, shisham, and bamboos.

(*b*) Forest gardens and groves in the submontane Divisions.

(*c*) Regular plantation work at Ránikhet for the supply of forest and fruit trees for local forest and other demands.

On the two first Rs. 792 were spent against Rs. 1,170 in 1886-87 ; on the latter Rs. 1,715 against Rs. 1,750. No considerable extension in the work is proposed, as there are at present so many more useful ways of disposing of available funds.

41. **Naini Tal Division.**—In the Naini Tal forests Rs. 83 were spent in planting up with deodár, ash, oak, walnut, &c., 225 acres of imperfectly stocked forest and in transplanting in the nursery 20,000 deodár seedlings.

In the Ránikhet forests Rs. 44 were spent in putting out from the forest garden 2,874 oak, walnut, and chestnut at Kairali in areas damaged by the fire, and 35½ seers of chír seed were sown in patches at Kairali and Dalmoti for the same purpose. With some exceptions, the Ránikhet plantations escaped much damage from the fire, owing to their sheltered positions and to the absence of the thick covering of chír leaves elsewhere universal.

The forest garden is in splendid order, and the work of the past year has been most successful. The sowing of fruit and forest trees has been continued, the older stock yielding apricot, plum, loquat, and peach seed, besides 200 seers of sweet chestnuts ; 8¾ maunds of horse-chestnuts were put down, but no deodár, kail, or fir seed was procurable.

The distribution of trees compares as follows :—

	1886-87.	1887-88.
Fruit trees	9,279	11,600
Forest trees	4,619	13,376

Indents from places between Quetta and the Burma Ruby Mines were complied with, and good results have in most cases been reported.

The fruit sales of the past three years are as follows :—

	1885-86.		1886-87.				1887-88.			
	Seers.	Rs	Seers.	Rs.	a.	p.	Seers.	Rs	a.	p.
Cherries ...	77	102	192	92	10	0	63	46	11	3
Apricots	1,431	314	2,297	247	8	0	2,120	100	0	0
Peaches	180	142	608	602	10	0	242	80	0	0
Plums ..	153	184	127				175			
Apples ...	2,857	895	2,078				3,549	610	0	0
Pears ...	272	241	105				47	20	0	0
Total ...	4,970	1,878	5,317	942	12	0	6,196	856	11	3

The reduction in receipts was discouraging, as the yield was the largest yet recorded ; but since the close of the year the fruit trees have been sold in small lots for the year 1888for about Rs. 1,400.

The stock of trees of all classes in the nursery is as follows :—

	1886-87.	1887-88.
Fruit trees	94,830	61,240
Forest trees	1,15,693	3,38,560

As noted last year, Mr. Craw has charge of cultural operations in the Ránikhet reserve as well of the forest garden.

42. **Kumaun Division.**—Rs. 100 were spent on planting in forest gardens at Haldwáni and Chorgalia.

43. **Garhwal Division.**—Rs. 41 were spent on the maintenance of the experimental sál plantation at Chopra, but as it has fulfilled its mission, and proved that with irrigation and special care sál can be grown artificially in grassy blanks, no further extension has been made.

Mr. Bryant has suggested sowing sál under more or less cover from trees of inferior species, and the experiment is to be tried in 1888.

Rs. 80 were spent on petty cultural operations in the forest gardens.

44. **Ganges Division.**—Rs. 70 were spent on mango groves and the forest gardens.

45. **Jhansi Division.**—Arrangements have been made to concentrate planting work, as scattered plantations have often failed and the charges thereon been excessive: 647 acres of plantation have been maintained and five acres in Dukhwan Sukhwan added for a total expenditure of Rs. 343, compared with Rs. 283 in the previous year. Forty acres of plantation which failed have been excluded from the returns. Frost is the great enemy of planting in Jhánsi.

46. **Lalitpur Division.**—Rs. 21 have been spent in maintaining Kachnauda and Sonrae; no extension was made.

47. **Banda.**—Experiments in teak sowings in south Karwi, and in transplanting mohwa and jamun in Koluwa, were successful, but improvement from protection and systematic working is at present what we must aim at rather than artificial cultivation.

7.—Climber-cutting.

48. Climbers were cut in the three submontane Divisions:—

	Area, square miles	Cost. Rs. a. p.	Rate per square mile. Rs. a. p.
1886-87	13	605 2 8	47 8 0
1887-88	18	859 14 8	47 12 0

No clearing is required in the Hill forests, or, at present, in Bundelkhand.

49. **Kumaun Division.**—Climbers were cut:—

	Acres.	Rs. a. p.
(1) Nindhaur forest, Nindhaur working circle	3,250	250 7 5
(2) Deolagadh ditto ditto	1,762	137 15 3
Total	5,012	387 6 0

Average 1·27 annas per acre.

The Nindhaur working plan programme of improvement proposed cutting over 7,850 acres, but other important works were too heavy to allow of all the work being done.

50. **Garhwal Division.**—Climbers were cut:—

	Acres	Rs. a. p.
(1) Kosi Working Circle, Block II., compartments 12 and 13.	804	30 0 0
(2) North Pátli Dún Working Circle, Block III., compartments 1 to 5.	1,797	84 0 0
(3) South Pátli Dún forest, Sunta to Diwalwala ...	2,000	187 8 0
(4) Behar forest	1,080	98 0 0
Total ...	5,691	309 8 0

Average 1·13 annas per acre.

The provisions of the working plans were observed.

51. **Ganges Division.**—Climbers were cut in Kohtri forest, Dabina block, about 672 acres, Rs. 63; rate 1·5 annas per acre.

The final measurements had not been made, and the work was in progress at the close of the year.

8.—Experiments and Exotic Trees.

52. The observations in connection with the growth of sál have been extended and there are six plots in Kumaun, eight in Garhwál, and four in the Ganges Divisions; the latter marked off this year

Tin plates embossed with the serial number of the tree are being substituted for the painted numbers: the cost of a plate is 9 pies. In Appendix F. the results of the measurements made are given in abstract.

The following is a comparison of the growth in the thinned and unthinned areas:—

Year	*Average increase of girth per tree in thinned plots*		*Average increase of girth per tree in unthinned plots*	
	Area 6 acres No of trees, 345	Area 14 acres No of trees, 951	Area 1¼ acres No of trees, 213	Area 3 acres No of trees, 526
	Inches.	Inches.	Inches.	Inches
1884-85	74	.	376	
1885 86	923	...	403	...
1886 87	55		313	
1887 88	.	·808	...	47

As noted last year, the unthinned areas include some first and second class trees, while in thinned areas third and fourth class trees only are left.

At Dungalgarh, Garhwál Division, a patch 20 feet square, containing sál seedlings, was marked off in 1886-87 after the grand fall of seed of that season.

In December, 1886, 525 seedlings were counted.

In May, 1887, all had dried up down to ground level.

In January, 1888, 76 seedlings, with green leaves, were counted.

In May, 1888, 93 seedlings were alive.

Twenty-four new kinds of apples and a cultivated blackberry from England have been put down at Ranikhet, gum and China dwarf palm seeds, and sweet chestnuts, saved at Ránikhet, have been sown. The yellow sneezewood plants are doing well.

9.—Communications, Buildings, and other works.

53. The expenditure of the year compares as follows with that of 1886-87 :—

Year	Roads and bridges	Buildings	Other works	Total
	Rs.	Rs	Rs	Rs.
1886-87	26,398	7,954	480	34,832
1887 88	27,995	16,050	316	44,361
1887 88 Increase	1,597	8,096		9,529
1886-87 Decrease	...	.	164	

The expenditure on roads compares as follows :—

	1886-87	1887 88
Capital charges	2,403	7,464
Maintenance	23,995	20,531

During the year 18 miles of new roads and 44 miles of new fire and export paths were made, while the repair of 276 miles of fire and export paths, hitherto charged to "fire conservancy," was transferred to the head of "roads." The reduction in

maintenance charges was forecast in para. 58 of last year's report, and the net reduction would have been larger but for the transfer referred to above.

The new roads in Kumaun and Garhwál were made in connection with the extension of the area worked for timber, and their construction was unavoidable. With the exception of purely temporary roads or tracks the road charges cover all expenditure for communications.

The temporary roads made for the season and charged to timber works (AII.) were 48 miles in length and cost Rs. 269.

The charges for buildings are classed as follows :—

	1886-87. Rs.	1887-88. Rs.
Construction of buildings for controlling staff	4,026	8,673
Ditto subordinate staff	1,862	4,987
Total Capital charges ...	5,888	13,660
Maintenance of buildings	2,066	2,390
Total Expenditure ...	7,954	16,050

Of the increased charge of Rs. 8,096 for 22 new buildings one-fourth is due to payments for works of the previous year, which were deferred in order to provide funds to meet unforeseen forest settlement and timber work charges, &c.; while the remaining expenditure has been incurred to provide the accommodation so urgently required in Kumaun and the Ganges, where the establishment is particularly exposed. Good progress has been made in both Divisions and satisfactory work done.

(a) *Roads.*

54. The roads and paths constructed or maintained in the Circle were as follows :—

Description of road.	*Length in miles (excluding fractions) in each Division.*							*Total.*	
	Naini Tal	Kumaun.	Garhwál.	Ganges.	Jhánsi.	Lalitpur.	Bánda.	1887-88.	1886-87.
In the Bhabar and Plains.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Cart roads	...	186	267	199	15	18	24	709	679
Bridle roads	...	53	199	76	...	...		328	360
Fire and export paths	...	79	276	54	..	..	..	409	365
In the hills.									
Cart roads	2	...	...	...		.	..	2	...
Bridle roads	80	...	...	...	...	...	...	80	68
Total, 1887-88 ..	88	318	742	329	15	18	24	1,534	...
„ 1886-87 ...	68	300	701	358	9	12	24	...	1,472
1887-88 { Increase ... .?.	20	18	41	..	6	6	...	92	...
1887-88 { Decrease	...	...	...	29	..	...	...		...

55. **Naini Tal Division.**—A new cart road, two miles long, in the Siuni forest, for the fuel supply at Ránikhet, was made for Rs. 500. Seventeen miles 65 chains of three to six feet wide bridle road, for export and fire conservancy, has been made for Rs. 480-8-0, and Rs. 254-6-6 spent in the maintenance of 68 miles of existing roads.

	1886-87. Rs. a p.	1887-88. Rs a. p.
Capital charges	36 12 0	980 8 0
Maintenance	91 15 0	254 6 6

The increase is due to the necessity of opening up fresh areas for the fuel supply and intersecting the forests with a good system of paths in connection with fire conservancy.

56. **Kumaun Division.**—The following new roads were made :—

Nindhaur Valley.	Mls.	chs.	Rs.	a.	p.
Cart road, Durgapipal to Danda Kataut	3	58	380	10	10
Path, Sarragadh	1	20	35	4	0
Do. on Airadeo	2	32	89	0	0
Do., Deoligadh Airadeo	0	45	35	0	0
Do., Nindhaur road to Kataut	5	03	179	0	7
Do., Lohakhan Dhanaur Chaur	2	30	71	4	0
Do., Sarpchila Sarradhar	1	56	77	2	6
Do on Danda Kataut	0	17	4	4	0
Lower submontane road, Changhát bridge	0	0	30	0	0
Total ...	18	1	901	9	11

300 miles of roads were repaired for Rs. 5,121.

	1886-87. Rs.	1887-88. Rs.
Capital charges	5,636	5,121
Maintenance	963	902
Total ...	6,599	6,023

The decrease in maintenance charges is satisfactory and repays the expenditure of previous years on permanent improvement, while it also shows careful expenditure this year. New roads to open up the more remote and unworked forests of eastern Kumaun are greatly needed, and Colonel Campbell has in the past season done much good work in laying out paths and aligning roads to be opened up later on.

57. **Garhwal Division.**—The following charges for works of construction were incurred :—

	Mls.	chs.	Rs.
North Patli Dún Timber Works.			
I.—Balance due for Rathwadab road			547
II.—Three feet path alignment Adnala road			287
III.—Banjade cart road	2	70	679
IV.—Magnukhal cart road	2	42	582
Kosi Sub-Division Timber Works.			
V.—Tehra cart road	5	68	3,205
Palain forest, North Patli Dún.			
VI.—Export and fire paths	21	78	220
Dharon Rauge.			
Banjarihar cart road	7	38	162
Total ...	43	50	5,582

698 miles of road were repaired for Rs. 9,959.

	1886-87. Rs.	1887-88. Rs.
Capital expenditure	1,404	5,582
Maintenance	13,720	9,959
Total ...	15,124	15,541

The large increase in maintenance charges for last year was explained (1886-87 report, para. 58) as due to a change in system which insured better work and, it may be added, lower annual charges. The increase in 1886-87 maintenance charges led to construction charges for roads made in the season 1886-87 falling on the 1887-88 allotment, which explains the sharp variations shown above.

The roads constructed during the year were required in connection with the timber works and, save in the case of the Tehra road, were finished at the close of the year, and were designed to open up the forests to be worked in the Kosi working circle in 1889; these works repaid their cost many times over by the timber sold from the areas opened to purchasers.

With the exception of the Adnala road aligned during the year, and the construction of which has recently been sanctioned, the heavy works of construction in Garhwál are completed, and the forests of the Division are now the most accessible in the Circle.

58. **Ganges Division.**—328 miles 75 chains of road were repaired for Rs. 4,822, against Rs. 4,279 in 1886-87.

There was no capital charge in either year. The additional maintenance charge is for extensive improvements as to gradients and width in many of the bridle roads paths, where changes were required to facilitate export and the extension of fire conservancy.

59. **Jhansi Division.**—Rs. 75 for 15 miles, against Rs. 48 for 9 miles in 1886-87, were spent on the repairs of roads near Jhánsi. Most of the forests are served by district roads.

60. **Lalitpur Division.**—Rs. 250 were spent on repair of roads, against Rs. 120 in 1886-87.

61. **Banda Division.**—The Kaluwa road was repaired for Rs. 50. The other roads were in good order and did not need repairs.

(b) Buildings.

62. The following is a return of buildings and wells constructed or maintained during the year :—

Description of building.	*For Controlling officers.*		*For Subordinates, excluding revenue depôts.*		*Offices, stores, and revenue depôts.*		*Total number of buildings.*		*Wells.*	
	1886-87.	1887-88.	1886-87.	1887-88.	1886-87.	1887-88.	1886-87.	1887-88.	1886-87.	1887-88.
Permanent,	19	24	15	23	35	40	69	87	7	8
Semi-permanent.	6	6	22	24	5	7	33	37	...	..
Temporary,	...	...	1	1	...	...	1	1	2	3
Total ...	25	30	38	48	40	47	103	125	9	11

Information in connection with the above for each Division is given in Appendix G.

The buildings erected and charges incurred in each Division are as follows:—

63. **Direction Division.**—Repairs to office, Rs. 32-13-0, against Rs. 26-3-6 in 1886-87. Rs. 200 were spent in acquiring additional land at Haldwáni.

64. **Naini Tal Division.**—Repairs to buildings, Rs. 305-7-3 :—

	1886-87.	1887-88.
	Rs. a. p.	R. a. p.
Capital charges	273 0 6	...
Maintenance	204 12 2	305 7 3
Total ...	477 12 8	305 7 3

65. **Kumaun Division**—The following new buildings were erected :—

	Rs	a	p
Aonla Khera rest house	1,310	5	0
Dhanaur-Chaur rest-house .. .	736	6	0
Dhanda Katauta ditto .. .	1,135	11	11
Sainapani ditto ...	519	0	11
Additions to Haldwáni rest house and quarters	822	10	11
Ranger's and Subordinates' quarters, Aonlakhera ...	1,079	7	7
Revenue Depôt, Chandi	535	4	11
Ditto, Kilpura	522	2	10
Ranger's quarters, Dechauri, and miscellaneous charges ...	200	12	0
Total ...	6,870	14	1

Repairs to buildings, Rs. 481-5-5.

	1886-87. Rs a p	1887-88 Rs a p
Capital charges . ..	1,654 4 0	6,870 14 1
Maintenance	454 2 4	481 5 5
Total ...	2,108 6 4	7,352 3 6

66. **Garhwal Division.**—The following charges for new buildings were paid :—

	Rs.
Dhela rest-house	871
Subordinates' quarters, Dhikala	584
Ditto, Amangarh	100
Ditto, Leti (in part)	105
Ditto, Garral	60
Revenue Depôt, Amangarh ...	68
Ditto, Laldhang (in part)	113
Ditto, Patrampur ...	400
Ditto, Haldua (in part) ..	300
Total Construction .	2,600

Repairs to all buildings, Rs. 899-2-5.

	1886-87. Rs.	1887-88. Rs
Capital charges ...	1,934	2,600
Maintenance . ..	1,043	899
Total	2,977	3,499

67. **Ganges Division.**—Buildings as follows were paid for :—

	Rs	a.	p.
Construction Chaukamb rest-house balance (total Rs. 1,704)	986	5	5
Ditto Kunaun rest-house ...	1,219	15	8
Ditto Sanah ditto	1,533	0	0
Total Construction ...	3,689	5	1

Rs. 310-4-1 were spent on repairs.

	1886-87 Rs a p	1887-88 Rs a. p.
Capital charges	1,976 14 11	3,689 5 1
Maintenance	22 7 9	310 4 1
Total ...	1,999 6 8	3,999 9 2

68. **Jhansi Division**—Repairs to buildings cost Rs. 13-5-3, against Rs. 116-3-6 in 1886-87. No capital charges in either year.

69. **Lalitpur Division.**—Two additional chaukis for subordinates were erected for Rs. 120 and Rs. 127-13-3 spent in repairs.

	1886-87. Rs. a. p.	1887-88. Rs. a. p.
Capital charges		120 0 0
Maintenance	228 5 3	127 13 3
Total	228 5 3	247 13 3

70. **Banda Division.**—The following charges for new buildings were incurred :—

	Rs. a. p.
Quarters for Range Officer and Subordinates at Manikpur	310 0 0
Out-post at Chulha	30 6 3
Revenue Depôt, Karwi	40 2 0
Total	380 8 3

Repairs to buildings, Rs. 19-4-8.

	1886-87 Rs. a. p.	1887-88. Rs. a. p.
Capital charges		380 8 3
Maintenance	20 14 0	19 4 8
Total ...	20 11 0	399 12 11

(c) *Other works.*

71. The expenditure on wells and minor miscellaneous works was—

	1886-87. Rs.	1887-88. Rs.
Wells	381	223
Petty works	99	93
Total ...	480	316

The only important work under this head is well-sinking. As funds become available, the water-supply is improved in the most unhealthy parts of the Bhabar and the results have been most satisfactory. The attempt to introduce tube wells failed owing to the prejudice of the people, and masonry wells of small diameter are now being sunk instead.

The details by Divisions are :—

Garhwal Division—

	Rs. a. p.
Maldhan well	200 0 0
Ditches, drains, &c.	93 2 6

Ganges Division—

Cleaning wells	18 0 0

Jhansi Division—

Petty works	4 8 0

CHAPTER IV.

YIELD AND WORKING.

72. In accordance with G. O. No. 37, dated 19th January, 1888, the appendices (A, B, and C) which describe in a comparative abstract the yield and working of the year are this year compiled from the Code forms, with the exception that

clearances on fire-lines, &c., are added to the fellings of the year, and the value of free grants is obtained from the estimates framed by Divisional Officers.

The main facts of the year's work may be summarized as follows :—

		1887-88.	1886-87.	Increase.	Decrease.
1	Green trees felled (1) ... ... No.	59,490	67,051	...	7,561
2	Yield of above in timber and fuel (2) .. C. ft.	6,98,908	6,77,591	21,317	..
3	Yield of timber including timber from dry trees C. ft.	7,21,450	8,73,868	...	1,52,418
4	Value of above ... . Rs.	2,76,744	3,47,424	...	70,680
5	Yield of green timber ... ... C. ft.	4,75,525	5,39,893	...	64,368
6	Value of above ... . Rs.	1,95,228	2,46,852	...	51,624
7	Yield of dry timber .. .. C. ft.	2,45,925	3,33,975	...	88,050
8	Value of above .. .. Rs.	81,516	1,00,572	...	19,056
9	Yield of green timber removed by departmental agency .. .. C. ft.	15,475	77,321	...	61,846
10	Value of above ... ... Rs.	3,124	83,618	...	80,494
11	Yield of green timber removed by exporters ... C. ft.	3,50,890	3,59,200	...	8,430
12	Value of above ... ... Rs.	1,55,394	1,55,745	...	351
13	Yield of green timber removed by free grantees and right-holders ... ... C. ft.	1,09,214	1,03,306	5,908	...
14	Value of above ... ... Rs.	28,784	30,830	...	2,046
15	Yield of dry timber removed by exporters .. C. ft.	2,30,600	3,12,611	...	82,011
16	Value of above ... ... Rs.	78,081	95,145	...	17,064
17	Yield of dry timber removed by grantees and right-holders ... . C. ft.	15,825	21,364	...	6,039
18	Value of above ... ... Rs.	3,495	5,648	...	2,213
19	Yield of firewood and charcoal ... ... C. ft.	14,26,681	15,80,231	...	1,59,590
20	Value of above ... ... Rs.	51,451	55,617	...	4,166
21	Yield of fuel removed by departmental agency C. ft.	2,07,992	2,16,827	...	8,835
22	Value of above ... ... Rs.	35,793	40,888	...	5,095
23	Yield of fuel removed by purchasers ... C ft.	9,77,930	12,79,499	...	3,01,569
24	Value of above ... . Rs.	15,558	14,974	684	...
25	Yield of fuel removed by free grantees and right-holders.... ... . C. ft.	1,12,054	89,895	22,759	.
26	Value of above .. .. Rs.	2,178	1,155	1,023	...
27	Timber sold by departmental agency ... C. ft.	20,239	88,907	...	62,668
28	Receipts from above ... . Rs.	3,124	83,618	...	80,494
29	Timber sold direct to purchasers ... ... C. ft.	5,81,436	6,71,877	...	90,441
30	Receipts from above . ... Rs,	2,33,475	2,50,890	..	17,415
31	Fuel sold by departmental agency ... ... C. ft.	2,09,070	2,16,827	...	7,751
32	Receipts from above ... ... Rs.	35,793	40,888	.	5,095
33	Fuel sold direct to purchasers ... ... C. ft.	9,77,930	12,79,499	...	3,01,569
34	Receipts from above .. .. Rs.	15,558	14,974	684	
35	Bamboos sold ... . scores	9,36,788	10,61,763	...	1,24,975
36	Value of above ... . Rs.	93,778	1,03,503	.	9,728
37	Minor produce and grazing ... ... Rs.	66,198	78,676	..	12,478
38	Value of other receipts ... ... Rs.	9,787	7,393	2,394	...
39	Yield (Appendix B) per square mile in cubic feet of timber and fuel ... ... C. ft.	1,197	1,372	.	175
40	Value of above per square mile .. ... Rs.	183	224	...	41
41	Gross receipts (Form 58) per square mile ... Rs.	256	322	...	66
42	Net receipts per square mile . ... Rs.	124	168		44

The felling operations of the year are grouped as follows in contrast with those of 1886-87 :—

Description of felling and yield in timber and fuel.

	1887-88.		1886-87.		Increase.		Decrease.	
	Not	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.
Jardinage or selection fellings.	50,064	6,71,639	53,228	6,47,807	...	23,832	3,164	...
Thinnings ...	2,421	807	3,564	6,741	.	...	1,143	5,934
Total fellings for sylvicultural reasons.	52,485	6,72,446	56,792	6,54,548	...	17,898	4,307	...
Clearances on boundary lines, fire-lines and roads,	7,005	26,462	10,259	23,043	...	3,419	3,254	...
GRAND TOTAL ...	59,490	6,98,908	67,051	6,77,591	...	21,317	7,561	..

NOTES.—(1) The above include 7,005 and 10,259 green trees felled in 1887-88 and 1886-87 in clearing fire-lines, roads, &c.

(2) Includes 26,462 cubic feet and 23,043 cubic feet, the outturn of trees cut on fire-lines and roads.

Agency employed in felling and in the export of timber and fuel.

	1887-88.		1886-87.		Increase.		Decrease.	
	No.	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.
Government.								
Jardinage or selection fellings.	9,291	1,03,136	20,353	2,54,912	...	...	11,062	91,776
Clearances on boundary lines, &c.	656	10,066	1,061	4,647	...	5,419	405	...
Total by Government ...	9,947	1,73,202	21,414	2,59,559	...	...	11,467	86,357
Purchasers.								
Jardinage or selection fellings.	29,253	4,07,254	16,863	3,03,008	12,390	1,04,246	...	...
Thinnings ...	2,421	807	3,317	6,247	...	...	896	5,440
Clearances .	3,586	12,396	9,198	18,396	..	...	5,612	6,000
Total by purchasers ...	35,260	4,20,457	29,378	3,27,651	5,982	92,806	..	..
Right-holders and grantees.								
Jardinage or selection fellings.	11,520	1,01,249	16,012	89,887	...	11,362	4,492	...
Thinnings ...	.	...	247	494	..	...	247	494
Clearances ...	2,763	4,000	...	...	2,763	4,000	...	.
Total by right-holders and grantees.	14,283	1,05,249	16,259	90,381	...	14,868	1,976	. .
GRAND TOTAL ...	59,490	6,98,908	67,051	6,77,591	...	21,317	7,561	..

The number of trees felled is still entered, although most of our working plans are regulated either by volume or area, so that this information is of little value.

The following compares the yield of the fellings of the year by species :—

	1887-88.		1886-87.		Increase.		Decrease	
	No.	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.	No.	Cubic feet.
Sál	10,116	1,96,000	10,585	1,86,413	. .	9,587	469	...
Sain ...	1,903	72,972	1,869	66,013	34	6,959	...	...
Sisham	76	6,435	417	5,022	...	1,413	341	...
Tún	52	1,650	41	1,433	11	217	...	...
Haldu	677	30,505	438	53,406	239	...	...	22,841
Chír	7,071	2,15,944	8,295	2,05,782	.	9,562	1,224	...
Oak ...	2,089	72,785	1,775	26,707	1,214	46,078	...	...
Miscellaneous .	36,606	1,03,157	43,631	1,31,015	. .	..	7,025	28,758
Total .	59,490	6,98,908	67,051	6,77,591	1,498	72,916	9,059	51,599

The yield of the year shows a marked decrease on that of 1886-87, but it will be convenient to consider the cause of this fall as a financial question, and in this chapter to treat of the yield from a working point of view.

The first notable feature is the decrease of green timber exports by Government agency of 61,846 cubic feet consequent on the closure of Government works in Kumaun and reduced exports in Bundelkhand.

The change in policy as to Government works in the Kumaun and Garhwál forests has been gradually introduced after careful consideration, and the work of the year again justifies it, as the green timber exported by purchasers has, in a year of short demand, only fallen by 8,430 cubic feet, while the value of the exports has only decreased by Rs. 351 owing to the better prices obtained. As explained last year, most of the green timber is exported to the big marts in Chandausi, Meerut, and Delhi, and the attainment of a steady demand for the product that yields one-third of our revenue is satisfactory.

The increased use of sál and sain is notworthy, and bears out what is said above.

The demand for haldu has not fallen off, but fellings were contracted on account of the bad state of haldu reproduction in all forests.

During the past few years the timber trade has been undergoing a silent revolution. The completion of the large military buildings has, the timber merchants state, removed their best source of custom, while since 1880-81 the introduction of the iron sugar-mill has caused the following reduction in demand :—

		1880-81	1887-88
		Cubic feet.	*Cubic feet.*
Sál wood sugar-mills ...	... ..	4,811	740
Khair pestles for above		15,211	805
	Total ..	20,022	1,545

In spite of the above checks to the trade, improvements in domestic buildings, the extension of railways, and the exhaustion of private forests have all contributed to a steadily increasing demand easily traceable over periods of year.

The yield of dry timber in Kumaun and Garhwál, which furnishes about one-sixth of our receipts, has fallen by 82,011 cubic feet, or by 3,133 cubic feet more than it rose last year. The dry timber supplies local demands and the requirements of the poorer classes elsewhere, and is subject to more rapid rises and falls than any other source of supply, as it depends so largely on the prosperity or want of the lowest classes. This year the demand has been somewhat slack, while the 1886-87 exports included 50,911 cubic feet of dry deodár from the Bhagirathi forests which have now passed out of our hands.

In the Bundelkhand Divisions the completion of Railway works has checked the hitherto rapidly increasing demand, but a steady improvement is still noticeable.

The fuel sales have fallen off in quantity, but the prices obtained from purchasers have improved, owing to increased sales of charcoal, while the rates for Government sales have fallen.

The main decrease under fuel is due to the demand in the Kumaun forests for the supply of Bareilly having ceased. This is a matter for regret, and I hope that by concentrating the work, treating for lower rates on the Railway, and possibly by selling at lower prices, to enable contractors to export, at a profit, wood which is not improving in the forests.

The yield of the Circle in timber and fuel per square mile for the last three years is:—

	C ft.		C ft
1885-86	1,050		
1886-87	1,372	Average	1,209
1887-88	1,197		

The bamboo sales of 1886-87 were, as pointed out last year, abnormally high. Merchants gave large advances on the strength of high prices obtained in previous years of short supply, and early in the season cutters obtained enormous rates for their bamboos ; but before the season closed rates had fallen heavily, and in November the Cawnpore market contained large quantities of unsold bamboos. As of general interest, I attach, in Appendix H, a statement of bamboos sold during the past seven years.

The return for minor produce and grazing has fallen by Rs. 12,478, but the 1886-87 receipts included a windfall of Rs. 13,000 for arrear revenue in the Dechauri forests and the sale of a godown : so that, after allowing for new receipts of Rs. 1,117 on the manufacture of "cutch" in Kumaun, the real decrease is not large. It occurs chiefly in the Ganges Division, owing to the exclusion of Gújars and in Bánda owing to reduced receipts for fruit and stone.

The gross and net receipts per square mile for three years are as follows :—

	1885-86.	1886-87.	1887-88
	Rs.	Rs.	Rs.
Gross receipts	247	322	256
Net receipt	99	108	124

While they vary in 1887-88 from Rs 461 and Rs. 118 in Naini Tal and Rs 344 and Rs. 231 in the Ganges Division to Rs. 190 and Rs 109 in Jhánsi and Rs. 48 and Rs. 11 in Banda.

73. **Naini Tál Division.**—Trees felled 10,907, increase 80; by Government 248, decrease 2,559; by purchasers 2,635, increase 1,336; by grantees or right-holders 5,791, increase 1,253. Besides the above 1,958 trees were cut on fire-lines, &c, against 140 last year.

	C ft	C ft
The yield of the Division was obtained by selection fellings	2,90,614, increase	2,17,808
By clearance of fire and boundary lines or roads	17,486, decrease	29,095
Dry wood	1,58,349, ditto	32,339
Total	4,66,449, increase	1,56,464

The yield in timber was extracted as follows:—

	C ft	C ft
By Government agency . . .	Nil	decrease 2,271
By purchasers	28,581	increase 4,776

By free grants, departmental use for commissariat huts, bridges, &c., 8,961 cubic feet, decrease 4,991 cubic feet, by right-holders 53,019, increase 15,460 cubic feet.

The yield in fuel was, by Government agency 1,86,086 cubic feet, decrease 15,806 cubic feet; by purchasers 1,94,798 cubic feet, decrease 6,656 cubic feet; free to grantees 4 to 1,154 cubic feet last year.

The miscellaneous receipts are Rs. 3,902, or a decrease of Rs 2,378.

The fellings were made on the lines of the working plans. The Government timber works were closed during the year, a fact which accounts for the increase in timber used by purchasers.

A temporary decrease in the commissariat indents accounts for the reduction in Government fuel.

The fall in fuel removed by purchasers is nominal only, as the demand really rose, but was, by an arrangement now nearly at an end, diverted in part to district forests.

Miscellaneous receipts were last year swollen by Rs. 3,000, the price of the charcoal godown sold; the receipts of the year are above the average of previous years.

74. **Kumaun Division.**—Trees felled 3,721, decrease 2,330; by Government *nil*, decrease 1,293; by purchasers 2,848, increase 804, and by grantees 873, decrease 450 (besides the above 3,190 trees and poles were cut on fire-lines and roads).

The yield was obtained as follows —

By selection fellings 1,40,604 cubic feet, decrease 56,612 cubic feet; by thinnings *nil* to 2,631; by clearances on fire-lines 7,111 cubic feet, decrease 4,765 cubic feet; from dry wood 3,35,373 cubic feet, decrease 2,07,288 cubic feet.

The yield of timber was extracted as follows:—

By Government *nil* to 33,750 cubic feet, by purchasers 1,82,547 cubic feet, decrease 25,090.

Free grants were—

	C ft	Value Rs
His Highness the Nawáb of Rámpur sal	8,854	7,737
Executive Engineer, Kumaon Division, for bridges, sál	3,139	2,365
Ditto ditto, miscellaneous . . .	537	54
Bhabár	20	5
Departmental works, sál .. .	2,097	1,900
Ditto miscellaneous . .	2,172	516
Total ...	16,819	12,577

against 13,641 cubic feet and Rs. 8,507 in 1886-87, the increase being under departmental works.

Right and privilege-holders removed—

	C. ft.	Rs.
Villagers—Sál, green	4,447	3,051
„ Sál, dry	1,020	441
„ Miscellaneous	10,022	940
Tarái Thárus—Sál, dry	13,339	3,289
Total ...	28,828	7,721

against 39,642 cubic feet, value Rs. 15,518, in 1886-87. The decrease is probably due to the abnormal demand made last year by the villagers at the time of settlement in the new reserves.

Fuel exports were—by purchasers 1,45,894 cubic feet, decrease 2,16,648 cubic feet; under grant by His Highness the Nawáb of Rámpur 238 cubic feet, value Rs. 19, against 7,500 cubic feet, value Rs. 13,480 last year; by Tarái Thárus 1,08,756 cubic feet, value Rs. 772, against 80,172 cubic feet, value Rs. 866, in 1886-87.

Bamboo exports were—85,636 scores, value Rs. 8,011, or 16,805 scores, value Rs. 1,479 less.

Grazing dues Rs. 7,168, less by Rs. 668, and miscellaneous receipts Rs. 16,403, less by Rs. 16,008.

There is a nearly universal falling off in the Kumaun yield: under timber the decrease is chiefly under dry wood, as the exports of green timber were only deferred until late in the season after the closure of the year's accounts.

The decreased demand was most marked in Dechauri and Talla Des, Chanbainsi showing an increased export. During the year the Rohilkhand and Kumaun Railway exported sleepers from the Nindhaur, and the following is an abstract of the work done:— Sál trees felled 940, sleepers cut 21,829=33,750 cubic feet, or nearly 35 cubic feet per tree. The price paid was Rs. 1-3·9 per sleeper. As to economy in working and price the outturn is satisfactory, as the yield per tree is larger than it was last year. Arrangements for the Company cutting 35,000 sleepers in 1888-89 are in progress. Any single large work, like the sleeper works, in forests where carriage is not easy to procure, undoubtedly prevents small exporters resorting to the forests, and merchants who formerly worked in the Nindhaur have moved to the Garhwál forests, which accounts for the Nindhaur yield not being larger. The decrease under fuel was chiefly due to the exports to Bareilly having proved unremunerative, so the rise in fuel exports of 243,716 cubic feet in 1886-87 was not maintained. The bamboo exports of 1886-87 were abnormally high, and, as anticipated last year, the demand this year has fallen in Kumaun as elsewhere.

The decrease under grazing dues is owing to the payments from Tala Des having been made after the year closed.

The decrease under miscellaneous is due to 1886-87, including an arrear payment of Rs. 13,000 and to the export of less lime.

In three years the lime exports were:—

	Rs.	a.	p.
1885-86	2,740	8	0
1886-87	8,704	8	0
1887-88	6,438	12	0

An attempt to let the lime quarries by tender retarded export early in the season, but the prospect of larger capitalists than the old petty exporters taking up the work looked so good that the attempt cannot be regretted. The Kumaun lime is of such good quality that efforts to extend its export must in time succeed.

Experimental workings of the khair forests for catch manufacture were started this year above and below Kalaunia, Talla Des, with the following results :—

Area worked over	...	..	..	...	...	168 acres.
Trees felled	...	...	...	...	...	960

Girth of trees—minimum 30", average 50", maximum 120"; outturn, maunds 108¾. Receipts at Rs. 9 a maund = Rs. 978-12-0; charge for fuel on boiling 276 handies on 23 khair bhutties, at eight annas per handi, Rs. 138, total Rs. 1,116-12-0.

The works were a decided success and the experiment will be continued and extended.

75. **Garhwal Division.**—Trees felled 8,429, decrease 2,538; by Government, *nil*, by purchasers 5,873, decrease 1,284, free grants, &c., 2,556, decrease 1,170: while in addition 1,857 trees were cut on lines and sold to purchasers against *nil* in 1886-87.

The yield of timber and fuel was obtained as follows :—

By selection fellings 1,55,712 cubic feet, increase 8,725 cubic feet. Thinning 807 cubic feet to *nil;* clearances on lines and roads 1,365 cubic feet to *nil;* dry wood 2,10,563 cubic feet, decrease 41,372.

Timber was extracted as follows :—

By Government agency *nil;* by purchasers 1,92,956 cubic feet, decrease 7,970 cubic feet; by free grants for departmental works 4,666 cubic feet, increase 2,309 cubic feet; by right-holders 2,951 cubic feet, decrease 884 cubic feet.

Fuel by purchasers 1,42,754 cubic feet, decrease 49,054 cubic feet; fuel by free grantees 220 cubic feet.

Bamboos by exporters 187,572 scores, value Rs. 18,634, or a decrease of 68,504 scores and Rs. 6,564; by right-holders 2,085 scores, value Rs. 210, increase 1,875 scores and Rs. 213.

Grazing Rs. 2,698, decrease Rs. 179.

Miscellaneous receipts Rs. 9,205, decrease Rs. 182.

The decrease under timber is under dry wood, green sál having increased by 7,617 cubic feet and sain by 5,010 cubic feet; while better rates were obtained in Kota, counterbalancing the export at six annas a cubic foot of the outturn of improvement fellings in the South Patli Dún, where 238 unsound trees (yielding 6,605 cubic feet), which damaged the young growth, were removed. The export of small material (bed posts, &c.) was 18,938 cubic feet, value Rs. 9,535, increase 1,999 cubic feet and Rs. 1,049, which is very satisfactory.

About one-third the decrease in the bamboo export is due to the closure to cutting of certain tracts "open to rights," which had been overcut, while the remainder is due to the short demand.

Grazing brought in Rs. 2,698 and miscellaneous heads Rs. 9,205, or Rs. 179 and 182 less than in 1886-87.

76. **Ganges Division.**—Trees felled 5,070, or 2,626 less than in 1886-87; by purchasers 3,558, increase 2,287; by free grantees, &c., 1,512, decrease 4,913. No trees were cut on lines and sold.

The yield of timber and fuel was obtained as follows :—

By selection fellings 41,578 cubic feet, decrease 6,408 cubic feet; from dry wood 6,37,315 cubic feet, increase 49,924 cubic feet.

The timber was removed as follows :—

By purchasers 1,51,640 cubic feet, decrease 31,316 ; by free grants for the Lachman Jhula bridge and departmental works 12,583 cubic feet, or a decrease of 5,766 cubic feet ; by right-holders 106 cubic feet, or a decrease of 259 cubic feet.

Fuel was removed by purchasers 3,86,509 cubic feet, increase 24,262 cubic feet.

Bamboos by purchasers, 620,159 scores, value Rs. 61,085, or a decrease of 34,127 scores and Rs. 475 ; by right-holders, 3,942 scores, value Rs. 355, increase 3,542 scores, value Rs. 315. Grazing realized Rs. 4,293 and miscellaneous heads Rs. 4,776, or a decrease of Rs. 795 and Rs. 1,836.

The decrease in timber exports was chiefly under dry sál (17,437 cubic feet) and green sain (6,822 cubic feet). It may be attributed in the case of sain to the areas worked over yielding less timber, while the Kalandanda cantonment works diverted much of the hill labour usually employed in the Kotri Dún, where the chief decrease occurred under sál and miscellaneous timber. The exports of dry timber in 1886-87 included an item of 50,911 cubic feet dry deodár brought to account in closing transactions connected with the Bhagirathi forests.

The increase under fuel was in the Gori forests on the Ganges, where the demand for all produce was brisk.

Under bamboos, the introduction of the block system in the Ganges working circle and Chandi, and the closure of certain blocks in Kotri, account for a part of the decrease and a fall off in the demand for the remainder ; owing to better prices being obtained on the Ganges, the total receipts were nearly the same as those of 1886-87.

The exports of the three years were:—

	Scores.	Rs.	Rate per 100 scores. Rs. a. p.
1885-86	419,903	40,306	9 5 0
1886-87	654,286	61,590	9 4 0
1887-88	624,101	61,440	9 8 0

Under grazing the exclusion of Gújars from the forests accounts for the falling off, while under miscellaneous receipts Bhábar grass has been in less demand, and the closure of some additional blocks has reduced the supply late in the season. As the enhanced Kumaun grazing rates come into force this year and the people will get into the way of exporting the Bhábar grass earlier, the reduction in receipts under these heads will only be temporary.

77.—**Jhansi Division.**—Trees cut 1,055, decrease 674; by Government 811, decrease 205; by purchasers 214, decrease 499 ; by grantes 30 to *nil* in 1886-87.

The outturn of timber and fuel 7,961 cubic feet, increase 2,774 cubic feet, was obtained by selection fellings, and no thinnings were made, against 13,028 cubic feet last year.

The timber was removed by Government agency, 2,433 cubic feet, decrease 615 cubic feet; by purchasers 642, decrease 1,479 cubic feet; by right-holders 90 cubic feet to *nil* in 1886-87.

The fuel exports were, by Government agency 2,086, increase 305 cubic feet ; by purchasers 2,710, decrease 7,466 cubic feet. Free grants *nil* to 1,071. Bamboos were removed by Government 827 scores, value Rs. 393, decrease 568 scores, value Rs. 184 ; by purchasers 78 scores, value Rs. 22, decrease 487 scores, value Rs. 39.

Grazing and grass reserves brought in Rs. 5,350, increase 1,067, and miscellaneous heads 737, decrease Rs. 315.

The completion of much of the railway work accounts for the reduced receipts under timber, fuel and stone (miscellaneous), but the Deputy Commissioner states

with reference to bamboos, and the same remark applies to small timber, that the forests have not been fully worked, and it is hoped the growing demands of Jhánsi, which importers of forest produce from Lalitpur and Gwalior find remunerative, will, in future, be met from Jhánsi as far as the forest resources admit.

Under grazing an increase in the area set apart for fodder and the higher prices obtained account for the increase.

78. **Lalitpur Division.**—Trees felled 7,725, increase 1,805; by Government 4,646, decrease 677; by purchasers 2,321, increase 89; by free grantees 758 to *nil*.

The outturn of fuel and timber, 54,423 cubic feet, was obtained by selection fellings.

The timber was extracted as follows:—

By Government 7,183 cubic feet, decrease 2,840; by purchasers 4,194, decrease 1,010; by free grantees 1,016 to *nil*; by right-holders 490 to *nil*.

The fuel removed by Government agency was 19,820 cubic feet, increase 6,720 cubic feet; by purchasers 18,280 cubic feet, decrease 32,500 cubic feet; by free grantees 3,240 cubic feet to *nil*, and by right-holders 200 cubic feet to *nil*.

Bamboo exports were, by Government, 29,943 scores, value Rs. 3,842, increase in quantity 2,426 scores, decrease value Rs. 159; by purchasers 6,088 scores, value Rs. 555, decrease 6,703 scores and Rs. 325: grazing and miscellaneous products realized Rs. 2,609 and Rs. 2,290 or increased amounts by Rs. 316 and Rs. 137.

The decrease under timber and fuel is due to the demand for wood for temporary buildings and for lime-burning having fallen off as the railway work advanced, while for the bamboo-supply there is competition from the Gwalior State; but the Lalitpur forests are holding their own, and a rapid increase in exports may be looked for when the railway is opened.

79. **Banda Division.**—Trees felled 13,157, increase 1,778; by Government 1,353, decrease 6,244; by purchasers 11,804, increase 8,022.

The yield of timber and fuel was obtained by selection fellings and amounted to 88,820 cubic feet, decrease 17,799 cubic feet.

The timber was removed as follows:—

By Government agency, 5,859 cubic feet, decrease 22,370 cubic feet; by purchasers 20,876 cubic feet, decrease 621 cubic feet.

The fuel was extracted by Government *nil*, against 54 cubic feet; by purchasers 62,095 cubic feet, increase 5,244 cubic feet. Bamboos were exported by Government agency 1,196 scores, value Rs. 169, decrease 700 scores and Rs. 253; by purchasers 1,742 scores, value 352, increase 83 scores and Rs. 83.

The grazing realized Rs. 917 and minor produce 1,853, showing a decrease of Rs. 19 and Rs. 1,828.

The reduction in exports is in part due to the stock in hand at beginning of the year having been large, but is mainly attributed to the completion of the Railway works in Karwi. The forest staff is not strong enough to work the forests, and the demand for bamboos, lime, stone, and fuel in other districts has not been sufficiently considered.

The fall in miscellaneous produce is chiefly due to a poor crop of mohwa.

80. With reference to the yield utilized by right-holders described in para. 79 of the 1886-87 report, I have decided to enter in the Code forms such produce only as has been registered in the books of the Department, and not to bring forward therein estimated quantities. Efforts have again been made to estimate the value of the

more or less uncontrolled rights, and I give in Appendix I the results, which are certainly below rather than above the actuals.

The totals compare as follows:—

	1886-87.		1887-88.	
	Quantity. C.ft.	Value. Rs.	Quantity. C. ft.	Value. Rs.
(1) Timber	1,24,070	34,860	1,24,529	34,189
(2) Fuel	14,00,919	14,653	13,63,504	14,504
(3) Grass and grazing ...	...	37,859	...	30,570
(4) Minor produce	...	20,676	...	16,366
Total ...	15,42,589	1,08,057	14,03,033	95,719
Entered in Code forms ...	2,14,565	39,348	2,37,193	40,060
Balance estimated	13,28,024	68,709	12,55,840	55,659

CHAPTER V.

FINANCIAL RESULTS.

81. Forms Nos. 57 to 62 of the Forest Department Code afford detailed information on the above subject.

82. The receipts, expenditure and surplus of the past four years compare as follows:—

	1884-85.	1885-86.	1886-87.	1887-88.
	Rs.	Rs.	Rs.	Rs.
Receipts	4,83,737	4,43,133	5,78,023	4,60,450
Expenditure	2,61,912	2,64,479	2,77,117	2,37,543
Surplus	2,21,825	1,78,654	3,00,906	2,22,907
Percentage of expenditure to receipts .	54·35	59·93	47·97	51·59

The figures for the last two quadrennial periods contrast as below:—

	Average annual receipts and charges, 1880-81 to 1883-84.	Average annual receipts and charges, 1884-85 to 1887-88.
	Rs.	Rs.
Receipts	4,77,461	4,91,336
Expenditure .	2,79,947	2,60,263
Surplus	1,97,534	2,31,073
Percentage of expenditure to receipts . ..	58·63	52·97

The revised estimate of the year was:—

	Rs.		Rs.
Revenue	4,86,000,	actuals less by	25,550
Expenditure	2,52,000	„ „	14,457
Surplus	2,34,000	„ „	11,093
Percentage	48·15	„ „	3·44

The revised estimate figures would have been worked up to had expectations been realized regarding the revenue payments up to the close of the year for produce ready for export from the forest.

As it was, the exports were delayed and the receipts on account of some extensive transactions were credited in 1888-89, as will be explained later on.

The decrease in charges was mainly under timber expenses, less money being required than was anticipated, the remaining net decrease being under establishment charges. The expenditure would have been lower had not Rs. 8,108 been paid this year for sál sleepers sold in 18·6-87 in the Kumaun Division.

The abnormal amount of the revenue in 1886-87 was referred to in the report for that year, and it has been explained that closing the forest annual accounts in March, when the working season ends in June, leads to variations in the annual returns, which are often misleading, and the consequent advantages of comparing the results of the operations of terms of years have been described.

In connection with the above remarks, the figures given below will explain how 1886-87 gained at the expense of 1885-86, and how 1887-88 suffers if judged only on the revenue brought to account within the year.

The following is a list of abnormal credits made in the year 1886-87 and of other payments which complicate a contrast of the financial results of 1887-88 with those of other years:—

		Rs.
1.	Payment for deodár sleepers in the Ganges Division sold in previous years ...	4,863
2.	Kumaun Division arrear payment for Dechauri lime and other sales of previous years	13,000
3.	Kumaun Division payment for sál sleepers delivered in 1886-87, but due for delivery in 1887-88, and the charges for which were paid in the latter year ..	10,020
4.	Excess payment in 1886-87 of revenue on timber, &c, prepared for export in 1885-86, but not exported by March, 1886—total Rs. 54,905, less estimated increase of receipts Rs. 6,905, of which credit is due to 1886-87	48,000
5.	Stock clearance sales in 1886-87, Rs. 8,757, less the amount, Rs. 1,747, of similar sales in 1887-88	7,010
	Total extraordinary credits, 1886-87 . .	91,893
6.	Add abnormal credits, April to June, 1888, for timber, &c., prepared in 1887-88, but not exported by March of that year	21,540
	Total	1,13,433
7.	Estimated net decrease of revenue, 1887-88, as compared with 1886-87 ...	4,140
	Total difference between receipts, 1886-87 and 1887-88	1,17,573

To explain how items 4 and 6 are worked out, I give in Appendix J the receipts from April to June for six years in the submontane Divisions.

Item 4 is the excess of 1886-87 over the average receipts of the previous three years.

Item 6 is the excess of 1888-89 over the average of the previous six years, discarding the excessively low or high years 1885-86 and 1886-87.

The preceding, I think, shows that although 1887-88 has been a year of short demand for forest produce, the deficient receipts, as compared with the previous year, do not exceed Rs. 5,000, while the proportion of net to gross receipts is steadily improving.

83. The receipts and charges in each Division compare as follows with those of 1886-87:—

Division.	*Receipts.*		*Differences.*		*Charges.*		*Differences.*	
	1887-88.	1886-87	More.	Less.	1887-88.	1886-87.	More.	Less.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Direction .	.	...	...	...	19,564	24,283	...	4,719
Naini Tal ...	51,155	63,087	...	11,932	38,084	43,102	...	5,018
Kumaun ..	1,15,470	2,04,902	...	89,432	56,730	86,910	...	30,180
Garhwál ...	1,49,303	1,52,586	...	3,193	68,202	69,616	...	1,324
Ganges ..	1,20,029	1,20,764	..	9,735	40,313	40,175	138	. .
Jhánsi .	7,236	7,784	...	548	3,105	2,880	225	...
Lalitpur ...	11,546	12,498	...	952	7,088	6,419	669	...
Bánda ...	5,621	7,402	...	1,781	4,367	3,732	635	...
Total ...	4,00,450	5,78,023	...	1,17,573	2,37,543	2,77,117	1,667	41,241

The comparative net difference in the two years, therefore, is in 1887-88 decreased receipts and charges, Rs. 1,17,573 and Rs. 39,574, opposed to an increase of receipts Rs. 1,34,890 and of charges of Rs. 12,638 in 1886-87, giving a net increase of revenue of Rs. 17,317 and decrease in charges of Rs. 26,936 on the two years.

84. The receipts, charges, and surplus or deficit in each Division are:—

Division.	Receipts.	Charges.	Surplus.	Deficit.	*Percentage of charges on receipts.*		
					1887-88.	1886-87.	1885-86.
	Rs.	Rs.	Rs.	Rs.			
Direction	...	19,564	...	19,564	...	...	...
Naini Tal . .	51,155	38,084	13,071	...	73·0	68·3	98·3
Kumaun	1,15,470	56,730	58,740	...	49·1	42·4	41·1
Garhwál	1,40,393	68,292	81,101	...	45·7	45·6	58·5
Ganges	1,20,029	40,313	79,716	...	33·6	30·9	43·7
Jhánsi	7,236	3,105	4,131	...	42·7	37·1	51·6
Lalitpur	11,546	7,088	4,458	...	63·3	51·3	59·0
Bánda	5,621	4,367	1,254	.	77·7	50·4	74·7
Total ...	4,60,450	2,37,543	2,22,907	19,564	51·58	47·07	59·93

All Divisional Officers have exercised most careful control over both receipts and charges and the results are satisfactory. In Kumaun but for the special payment described in the next para. the surplus would have been Rs. 66,848 and the percentage of expenditure on receipts 42·1, results better than those of the previous year.

85. Arranged under main heads, the receipts and charges of the year compare as follows with those of 1886-87:—

	Receipts.					Charges.				
	Amount.		*Difference in 1887-88.*		Budget heads.	*Amount.*		*Difference in 1887-88.*		Budget heads.
	1887-88.	1886-87.	Increase.	Decrease.		1887-88.	1886-87.	Increase.	Decrease	
	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.	
I.—Departmental operations.	43,748	1,29,967	...	86,219	I.	37,295	83,702	...	46,407	Debits varied to suit each Division, *Vide* Form No. 62.
II.—Other heads of revenue.	4,16,702	4,48,050	...	31,354	II to V.	99,278	92,920	6,358	...	
III.—Formation, protection, and improvement of forests.	. .	...	...	. .	...	1,00,970	1,00,495	475	...	
Total ...	4,60,450	5,78,023	...	1,17,573	...	2,37,543	2,77,117	6,833	46,407	

The decrease in departmental works is almost entirely in Kumaun and Naini Tal, owing to the abolition of Government timber depôts, and in part to reduced requirements by the Commissariat Department.

The departmental operations are prejudiced by the payment this year in Kumaun of Rs. 8,108 on account of sleeper operations of 1886-87.

In the three past years, which include the sleepers works, the surpluses on work may fairly be compared as follows :—

	1885-86.	1886-87.	1887-88.	Average.	Proportion of receipts and charges for three years.
Departmental agency	35,556	46,265	6,753	29·525	Rs. 1·4 to Rs. 1
By purchasers	2,30,730	3,55,136	3,17,424	301·097	„ 4·2 „ „ 1

The works by departmental agency have now probably reached the lowest ebb, and it may be necessary to extend them in Bundelkhand, at the same time doing all that seems possible to extend direct exports or export of material only cut by Government.

The charges for the formation and improvements of forests are distributed as follows :—

Division.	*Amount.*		*Difference in 1887-88.*	
	1887-88.	1886-87.	Increase.	Decrease.
	Rs.	Rs.	Rs.	Rs.
Naini Tal	9,690	11,135	...	1,445
Kumaun	25,490	22,880	2,610	...
Garhwál	39,969	41,624	...	1,655
Ganges	19,303	19,405	...	12
Jhánsi	1,752	1,501	251	...
Lalitpur	2,464	2,201	263	...
Bánda	2,212	1,749	463	...
Total ...	1,00,970	1,00,495	3,587 Increase	3,112 ... 475

The increase in amount is small, but, as has been noted in Chapter III, there have been considerable changes in the distribution of the grant. Roads and buildings have been debited with all the fire-paths, and work has been largely extended in Kumaun and Garhwál, where the necessities of the forests were most urgent. There has been a saving under demarcation, fire-conservancy, and miscellaneous charges in all Divisions save the Ganges, where large extensions of fire protection were made. On the whole, the savings on fire-conservancy have paid for extensions and left a net saving. In Naini Tal the saving is due to the completion of the forest settlement. In Kumaun the increase is for buildings. In Garhwál the saving is on fire-conservancy. In Jhánsi the increase is for planting work, in Lalitpur for roads, and in Bánda for buildings.

86. The receipts and charges of the year by budget main heads compare as follows with 1886-87:—

Receipts.

Year.	I. Timber and other produce removed from the forests by Government agency.	II. Timber and other produce removed from the forests by purchasers.	III. Confiscated drift and waif wood.	IV. Revenue from forests not managed by Government.	V. Miscellaneous receipts.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1887-88	43,748	4,05,082	1,233	...	9,787	4,60,450
1886-87	1,29,967	4,39,533	1,129	...	7,394	5,78,023
Difference, 1887-88. More ...	...	...	104 .	...	2,393	1,17,573
Difference, 1887-88. Loss ...	86,219	33,851	...	...	...	

Expenditure.

A.—Conservancy and Works.

Year.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.
	Timber and other produce removed from forests by Government agency.	Timber and other produce removed from forests by consumers or purchasers.	Confiscated drift and waif wood.	Revenue from forests not managed by Government agency.	Rent of leased forests and payment to shareholders.	Live-stock, stores, tools and plant.	Communications and buildings.	Demarcation, improvement, and extension of forests.	Miscellaneous.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1887-88	27,735	23,002	...	...	994	9,391	44,361	23,029	846	1,29,358
1886-87	59,558	23,864	...	...	704	12,076	34,832	28,710	718	1,60,462
Difference, 1887-88. More ...	...	...	...	...	290	...	9,529	...	128	...
Difference, 1887-88. Less ...	31,823	862	...	...	...	2,685	...	5,681	...	31,104

B.—Establishments.

Year.	I.	II.	III.	Total.
	Salaries.	Travelling allowances.	Contingencies.	
	Rs.	Rs.	Rs.	Rs.
1887-88	91,747	11,075	4,763	1,06,185
1886-87	1,00,493	11,243	4,919	1,16,655
Difference, 1887-88 More	...	432	...	...
Difference, 1887-88 Less	8,746	...	156	8,470

87. The value of timber and other produce in sale depôts and of live and dead stock is shown in Form No. 57, and the figures compare as follows :—

	Rs.
Value, 1st April, 1887	1,09,155
„ 31st March, 1888	1,14,009
Balance in favour of year	4,845

The value of timber, &c., owing to the clearance of stock in Naini Tal and Kumaun has been reduced by Rs. 1,747, and the stock is now at a figure which will have to be maintained.

Under live stock there is a decrease of Rs. 900 owing to the death of an elephant and sales of decrepid bullocks. Under buildings and plant there is an increase of Rs. 7,501.

The outstandings due to the Department were Rs. 11,546 opposed to Rs. 3,544 in 1886-87. No sums were due from the Department.

The balance of uncollected revenue was Rs. 6,911-3-6, against Rs. 576 in 1886-87—in Kumaun Rs. 6,615 for sleepers, which have under agreement been paid for since the year closed, and in Bánda Rs. 296 (against Rs. 576 last year) for grazing and produce leases.

The value of the year's transactions stands :—

		Rs.
Cash surplus		2,22,807
Add difference in value of stock		4,845
„ outstandings due to Department		11,546
Cash value transactions,	1887-88	2,39,298
Ditto	1886-87	3,00,371

88. The main variations in the receipts and charges are accounted for as follows:—

Receipts—

Timber, &c., by Government agency. The decrease is due to the closure of sleeper operations in Kumaun and reduced sales in Naini Tal, Jhánsi, Lalitpur, and Bánda. Timber, &c., by purchasers, decrease already explained.

Charges.—

The decrease under A.I. is mainly on Government timber works in the Divisions noted above, amount Rs. 29,755. The fuel works in Naini Tal absorbed Rs. 2,077 less than last year.

Under timber, &c., removed by purchasers, Rs. 862 is a reduction by small amounts in all Divisions.

Under payments for shared forests the increase of Rs. 290 is for enhanced receipts in Bánda in 1886-87.

The charges for stock, &c., were lower owing to the heavy additions of the previous year.

The charges for roads and buildings have already been explained.

Under establishments the saving is due to fewer officers having drawn pay in the Circle and to the grant of furlough.

CHAPTER VI.

GENERAL REMARKS.

89. This report should not be closed without an acknowledgment of the excellent work done by all Divisional Officers, and I wish to invite special attention to the services of Mr. A. F. Broun, Deputy Conservator of Forests, who has held charge of the Ganges Division during the past working season. The assiduity with which he acquired a thorough knowledge of his forests and the zeal and tact he brought to bear on their administration has produced good results in every branch of his work, and it is a matter for great regret that his connection with this Circle has so soon been brought to a close.

90. The discussion of the increase of clerical work in the Department has as yet brought no relief, and it is only by the most praiseworthy industry and hard work after ordinary office hours that the work has been coped with.

C. BAGSHAWE,
Offg. Conservator, Central Circle, N. W. P. and Oudh.

NAINI TAL;
The 9th July, 1888.

APPENDIX D.

Results of the Fire Conservancy Operations, 1888.

1. The fire conservancy operations of the past five years contrast as follows : —

Year.	Area in which protection was attempted.			Failures.	Area actually protected.	Cost of the operations of the year.	Cost.		Percentage of the area attempted to total area of the forest.	Percentage of failure to the total area attempted.
	(i.) By means of a regular system of fire-lines and watchers.	(ii.) By the ordinary establishment under administrative orders and with the aid of the villagers, or trifling expenditure on watchers, &c.	Total of (i) and (ii).				Per acre attempted.	Per acre protected.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Pies.	Pies.		
1884 ...	266,015	...	266,015	10,058	2,56,857	18,091	13·01	13·52	28·53	3·76
1885 ...	256,895	...	256,895	531	2,56,364	15,966	11·04	11·95	25 57	·20
1886 ...	285,687	...	285,687	270	2,85,417	18,224	12·25	12·26	24·89	·09
1887 ..	312,398	...	312,398	22,964	2,89,434	16,872	10·68	11·19	29·13	7.35
1888 (i) ..	348,029	...	...	4,083	3,44,946	17,839	9·12	9·20	30·13	1·28
,, (ii) ...	...	58,812	...	3,064	55,748	96	·33	·35	5·07	5·21
Total of year ...	...	..	407,841	7,147	400,694	17,935	7·85	8·00	35·2	1·85

The past fire season has been one of the most trying and prolonged on record, and the worst fires occurred late in June, when the earlier rains had usually set in.

The areas shown under head (ii) are in Jhánsi, Lalitpur and Naini Tal, and the tracts described are, as a rule, favourably situated for the introduction of fire conservancy.

The plan of excluding fire by the aid of the ordinary establishment, without regular fire-lines, &c., has met with a fair measure of success, and though some of the areas must ultimately be brought under the ordinary system, further extensions of cheap protection will, it is hoped, be possible.

The figures for the year show :—

(a) Increase in area attempted ... ... 95·443 acres.
(b) ,, ,, ,, protected ... ... 111,260 ,,
(c) ,, ,, percentage of total forest under protection ... ... 6·07%
(d) Increase in expenditure ... ... Rs. 1,063
(e) Percentage of failures, 1·85, decrease ... ... 5·5%
(f) Area attempted in hills, 74,438 acres, increase ... ... 16,095 acres.
(g) ,, ,, ,, plains, 332,403 acres, increase .. ... 78,448 ,,
(h) Cost per acre attempted, pie 7·85, decrease ... ... 2·83 pies.
(i) ,, ,, ,, protected, 8·00, ,, ... 3·19 ,,
(j) ,, ,, ,, hill forest attempted, pie 2·75, increase ... ... ·44 ,,
(k) ,, ,, ,, plains ,, ,, pie 9·71, decrease ... ... 2·91 ,,

The cost of maintaining 276 miles of fire-line and inspection path, amounting to Rs. 1,380, was transferred from the head fire protection to roads, which accounts for pie ·66 of the reduction in the cost of the area under regular conservancy [head (i)], while the further reduction of pie ·9 is due to the enlargement of the tracts under protection and a careful revision of interior fire-lines.

The increase in the charges for the hill forests is due to the clearing of interior fire-lines, the necessity of which was pointed out by the serious fires of 1887.

I hope that the extension of fire conservancy will enable us to reduce the cost on all fire conservancy from 7·85 pie to 6·5 pie per acre.

2. Special attention has been directed to the cost of fire protection in the three circles of the North-Western Provinces and Oudh. Classing the hill forests separately the figures compare as follows:—

	1887	1888
Hill forests		
School Circle	3 39	...
Central „	2 31	2 75
Plains		
Oudh Circle	4 90	
School „	4 95	
Central „	12 62	9 71

In the Oudh Circle the charges in different plains divisions varied in 1887 from pie ·5 to pie 11 0 per acre; in the School Circle from pie 4 53 to pie 5·37 per acre; and in the Central Circle from pie 8·40 to pie 17 61 per acre. The rates in different tracts in the three circles varied widely, ranging from ·5 of a pie to 6·31 annas per acre. In 1888 the charges in the plains divisions of the Central Circle vary from pie 3 to pie 12 46 per acre. It has been held that the analysis of the expenditure on fire conservancy in the Central Circle given in last year's report does not explain the high charges of the circle. I therefore add the following notes:—

The figures referred to, omitting mileage of line, &c, show that in 1887 the expenditure was distributed as follows:—

	Rs
Exterior lines, per square mile	16 06
Interior „ „ „ „	13 72
Fire watchers „ „ „	9 91
Miscellaneous „ „ „	1 10
Total per square mile	40 79

The additional charge in this circle is chiefly under the interior lines and fire watchers, and were the first to a great extent abolished, and the latter largely reduced so as to place them on an equality with the other circles, the charges for 1888 might easily have been Rs. 18 per square mile; in fact it is possible that in two years charges might be reduced to Rs. 15 per square mile. But as pointed out last year, much hard and costly work was not needlessly taken in hand, and the forest is only divided into sections by artificial lines where no water-channels or roads form natural or free fire-lines. Again some most expensive work, *viz.*, cutting lines round and burning grass areas within the fire-protected tracts is absolutely necessary unless

(*a*) We close the forests to export from 1st March or earlier: thus reducing the export season in the submontane forests to *three months or less;*

(*b*) Risk frequent fires over extensive areas.

By careful management it has been found possible to protect forests from fire and yet not interfere with grazing and other rights, and elsewhere to allow a very considerable amount of export of produce from closed forests, with the result that the revenue has risen notwithstanding the gradual extension of fire conservancy over ¼ of the forest area.

Lastly a regular system of patrolling the protected forests has been established, by which the forests far removed (often 12 to 16 miles) from help from villages, are allotted the largest establishment. Any considerable reduction in the number of watchers would involve the risk of great disasters should a fire occur.

Looking at the question of cost from every point it becomes obvious that each forest tract must be treated on its own merits and that a comparison of rates in forests which differ in position, &c, is often misleading.

During the past twelve years the progress made has been as follows :—

Period.	*Area in square miles.*		*Average cost per square mile.*
1877 to 1880	270	=	Rs 36
1881 to 1884	302	=	„ 40
1885 to 1888	484	=	„ 36

In 1888, 637 square miles have been protected at Rs. 28 per square mile. Advance has been steady, and every divisional officer has, I believe, done his best to keep down the charges as far as he was justified by a due care of the revenue and a careful consideration of the probability of success.

3 Turning to the records of each d vision the following embraces the main features of the work of the year :—

Division.	*Area attempted.* Acres.		*Area attempted.* Percentage of total area of divisions (including proposed reserves).		Area protected.		*Failures.* Acres.		*Failures.* Percentage of area attempted.		Cost.		Cost per acre attempted in pies.	
	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.	1888.	1887.
Naini Tal.	74,438	57,443	90·63	80·54	70,053	47,064	4,386	9,479	5·89	16·50	1,009	3,601	2·75	2.31
Kumaun,	45,052	39,052	14·60	11·40	45,866	38,212	86	840	0·17	2·15	3,245	3,533	12·46	17·61
Garhwál,	200,206	188,682	64·48	59·00	203,550	184,084	2,650	3,998	1 28	2·12	11,778	11,388	10·01	11·58
Ganges,	31,462	23,989	14·08	10·75	31,446	15,342	16	8,647	0·05	36·04	1,603	1,060	10 3	8·40
Jhánsi . .	23,945	1,483	100·00	6·28	23,945	1,483	...	...	.	. .	50	50	·3	6·47
Lalitpur,	25,838	1,749	26·20	1·89	25,835	1,749	3	...	·01	...	100	100	·74	10·07
Total ...	407,841	312,398	35·2	29·13	400,694	289,434	7,147	22,964	1·85	7·35	17,935	16,672	7·85	10 68

In Bánda there is no regular fire protection, but firing the forest is forbididen, and about 43,570 acres of forest are reported to have escaped fire against 31,884 burnt. In no other division did any considerable area not under fire conservancy escape from fire.

The increase in charges in Naini Tal is due to extensions and new fire-lines in Rániklíet.

In Kumaun, Garhwál and the Ganges the expenditure would have been further reduced had not the " capital charges " for new lines in the areas recently taken up been heavy ; Rs. 217, Rs. 470, and Rs. 2,903 were spent on this account in the three divisions. The charges on these lines are as a whole repaid by the sale of the timber cut in clearing.

The result of the fire-protection works in Jhánsi and Lalitpur is most satisfactory.

4. The following is a summary of the fires that have occurred during the past year and previous four years :—

Year.	By the forest establishment when burning fire-lines, &c.		Fires which entered the forests by crossing exterior fire-lines		By workmen (not in forest employ), by accident.		By villagers, travellers, or soldiers by accident.		Fires caused by lightning or fire balloons.		Maliciously lighted inside the forests.		Cause unknown.		Total	
	No.	Area in acres.	No.	Area in acres.	No.	Area in acres.	No.	Area in acres.	No.	Area in acres.	No.	Area in acres.	No.	Area in acres.	No.	Area in acres.
1888...	5	613	1	365	3	363	3	239	3	658	7	3,950	9	959	31	7,147
1887 ..	3	284	3	6,768	5	80	47	7,717	1	10	4	7,707	7	398	70	22,964
1886...	0	196	...	.	2	40	1	8	...	...	1	17	...	...	10	270
1885...	1	100	...	. .	...	...	5	150	...	...	5	215	...	...	11	53
1884...	5	4,061	1	10	...	..	4	776	1	4,196	7	1,015	..	...	18	10,058

5. The details of the fires in each division are as follows :—

Naini Tal Division—16 fires to 52 in 1887.

China Range—

i. Naini Tal Reserve—21st June, 1888, 117 acres near Mangoli : believed to have been accidently fired by graziers.

Hinnan Range—

ii. Naini Tal working circle, compartment 8—15th June, 1888, 42 acres : cause unknown.

iii. Naini Tal working circle, compartments 1 to 6—16th June, 1888, 1,166 acres : believed to have been maliciously fired by villagers ; case still under enquiry.

iv. Ninglat proposed reserves, Salia dhar—15th June, 1888, 98 acres : believed to have been lit by travellers smoking.

v. Ninglat, near Salia dhar—26th June, 1888, 650 acres : cause unknown ; and Gagar proposed reserve, near Karari—17th April, 1888, 22 acres : cause unknown.

vi. Ninglat proposed reserve, near Panyali—8th May, 1888, 30 acres : cause unknown.

vii. Ninglat proposed reserve, near Karai—28th May, 1888, 56 acres : believed to have been fired by villagers maliciously.

viii. Gagar proposed reserve, near Aksora—28th May, 1888, 24 acres : believed to have spread from travellers' fire.

ix. Ninglat proposed reserve, near Accbanna—18th-19th June, 1888, 1,140 acres : believed to have been lighted maliciously.

x. Ninglat proposed reserve, near Aksora—19th 20th June, 1888, 455 acres : believed to have been fired maliciously by villagers.

xi. Ninglat proposed reserve, near Bhim Tal—20th June, 1888, 9 acres : believed to have been maliciously fired.

xii. Ninglat proposed reserve, below Karai—20th June, 1888, 365 acres : spread from outer forest.

xiii. Gagar proposed reserve, below Panyali—21st June, 1888, 66 acres : cause unknown.

xiv. Gagar proposed reserve, below Karai—24th June, 1888, 73 acres : cause unknown.

The series of fires in Hinnan are still under enquiry and rewards for information have been offered, but it is unlikely any convictions will be obtained.

Sioni Range—

xv. Machor—30th April, 36 acres
xvi. Machor—17th May, 37 acres } Cause unknown.

Kumaun Division—4 fires to 5 fires in 1887.

Talla Des Range—

i. Jaunla Sal—17th March, 1888, 73 acres : in burning outer forest fire crossed the line.

Chaubainsi Range—

ii. Lakhman Mandi—5th April, 1888, 7 acres : in burning outer forest.

iii. Horai—28th May, 1888, 4 acres: caused by a district chaprasi, who was convicted and imprisoned.

iv. Nindhaur working circle, Khonani North—17th February, 1888, 2 acres: caused by workmen who were punished.

Garhwal Division—8 fires to 9 fires in 1887.

Kotah Range—

i. Chopra plantation—2nd January, 1888, 104 acres: while burning fire-lines.

ii. Kosi working circle, Kota, compartment 19—24th March, 1888, 311 acres: due to a merchant met remaining in forest after closure; merchant and forest guard punished.

iii. Kosi working circle, Kota, compartment 19—17th April, 1888, 30 acres: supposed to have started from a smouldering stump left after fire on 24th March.

Chilkia Range—

iv. Chilkin, near Mohan—16th April, 413 acres: when burning fire-lines, owing to a sudden storm.

v. Chilkia, Dauradeh—30th April, 120 acres: started in a storm, probably from lightning.

vi. Chilkia, Daurâdeh—4th May, 468 acres: the fire of 30th April broke out again owing to a gale of wind.

Patli Dún Range—

vii. North Patli Dun working circle, Adoola—3rd May, 70 acres: caused by lightning; struck tree found.

Dharon Range—

viii. Rehar forest, Banjarihar and Naiwala—16th June, 1,120 acres: fire lit maliciously, but police and forest enquiry led to no proofs of who fired the forest.

Ganges Division—1 fire to 4 fires in 1887.

Udepur Range—

i. Ganges working circle, Gwalgarh, compartment 1—April 17, 16 acres: while burning fire-lines.

Lalitpur Division—1 fire to *nil* in 1887.

Bansi Taluk—

i. Haraspur forest—acres 3 cause: unknown.

The most serious fires of the season were in Hinnan, 1,166 acres; Kotah, 361 acres; Rehar, 1,120 acres, where valuable forest that had been protected for some years was burnt.

The other fires did little damage, being in grass lands, poor forest, or newly protected forests.

C. BAGSHAWE,

Offg Conservator of Forests, Central Circle, N.-W. P. and Oudh.

DATED NAINI TAL: *9th July*, 1888.

ANNUAL STATEMENTS.

ANNUAL FORM No. 49—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of reserved forests, including proposed new reserves (late Iron Company's grant) 1887-88.

Division or Range.	Civil District or Territory	Name of Forest	Area on 1st April, 1887.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1888.		Number and date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres	Acres.	Equivalent in square miles.		
Naini Tal Division ...	Kumaun District ...	Naini Tal (proposed reserves, late Iron Company's grant).	22,400	35	...	...	22,400	35		
		Block XI, Ránikhet	4,480	7	...	..	4,480	7		
		Total .	26,880	42	...	...	26,880	42		
Kumaun ,,	Ditto ...	Proposed Blocks I.—Dabka ...	62,080	97	...	...	62,080	97		
		Proposed Blocks II.—Dechauri ...								
		Proposed Blocks III.—Fatehpur ...								
		Block No. IV —Chakhata ...	65,606	103	...		65,606	103		
		,, V.—Horai .	8,960	14	...	..	8,960	14		
		,, VI.—Chaubhainsi .	147,520	230	...	...	147,520	230		
		,, VII.—Jaula Sal ...	43,520	68	...	...	43,520	68		
		,, VIII.—Kalonia ...	4,320	7	...	.	4 320	7		
		,, IX.—Chini ...	4,640	7	...		4,640	7		
		,, X.—Sarda Islands ...	5,440	8	...	..	5,440	8		
		,, XI.—Chandani ...	320	1	...	..	320	1		
		Total ...	342,406	535	...	...	342,406	535		
Garhwál ,,	Garhwál ,,	Block No. I.—Palain ...	24,640	38		...	24,640	38		
		,, II.—Patli Dun ...	152,000	238		...	152,000	238		
		,, III.—Kartia ...	800	1	...	...	800	1		
	Kumaun ,, ...	,, IV.—Chilkia ...	80,467	126	...		80,467	126		
		,, V.—Kotah ...	35,200	55	...	...	35,200	55		
		,, VI.—Garhibulchand . .	10,937	17	...	...	10,937	17		
	Bijnor ,, . .	,, VII —Relar ...	15,719	25	..	...	15,719	25		
		Total ..	319,763	500	.	...	319,763	500		

Ganges Division,	Garhwál district ...	Block No. I.—Kotri Dun ...	90,880	142	...	...	90,880	142	
		" II.—Udepur ...	34,240	54	...	...	34,240	54	
	(a) " and Bijnor districts,	" III.—Gori ...	98,059	153	...	...	98,059	153	
		Total ...	2,23,179	349	...	...	223,179	349	
Jhánsi ...	Jhánsi ...	Jhánsi	10,096	16	*457	...	10,553	17	* Notification No. 149F./716-9, dated 17th March, 1888.
		Mau	6,035	9	...	...	6,035	9	
		Garotha	5,127	8	...	...	5,127	8	
		Moth	2,270	4	...	†40	2,230	4	† G. O. Nos. 1715-W.R. & 272W.R., dated 22nd September, 1886, and 27th January, 1887.
		Total ...	2,3528	37	457	40	23,945	38	
Lalitpur ...	Lalitpur ...	Lalitpur	190	...	...	...	190	...	
		Bánsi	4,667	7	...	...	4,667	7	
		Talbehat	9,290	15	...	...	9,290	15	
		Balabehat	30,173	47	...	...	30,173	47	
		Bánpur	4,745	7	...	...	4,745	7	
		Mahroni	1,283	2	...	...	1,283	2	
		Máraura	39,415	62	...	...	39,415	62	
		Total ...	89,763	140	...	...	89,763	140	
		GRAND TOTAL ...	1,025,579	1,603	457	40	1,025,936	1,604	

	Acres.	Sq.m.
(a) Garhwál dist.,	56,320 =	88
Bijnor	41,739 =	65
Total ...	98,059 =	153

The areas are subject to correction.

DATED NAINI TAL:
The 9th July, 1888.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle.

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ANNUAL FORM No. 49—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of Protected Forests, 1887-88.

Division or Range.	Civil District or Territory.	Name of Forest.	*Area on 1st April*, 1887. Acres.	*Area on 1st April*, 1887. Equivalent in square miles.	*Added during the year.* Acres.	*Excluded or transferred to other heads.* Acres.	*Area on 31st March*, 1888. Acres.	*Area on 31st March*, 1888. Equivalent in square miles.	Number and date of Notification of addition or transfer.	Remarks.
Naini Tal Sub-Division.	Kumaun district.	Block I—Naini Tal. ...	22,903	36	...	...	22,903	36		
Naini Tal Division.		Block I.—Machor ...	211	...	...	...	211	...		
		,, II.—Bhatronj ...	5,760	9	...	...	5,760	9		
		,, III.—Titalikhet Suini, ...	4,480	7	...	...	4,480	7		
		,, IV.—Siun ...	640	1	...	...	640	1		
		,, V.—Bellekh ...	640	1	...	...	640	1		
		,, VI.—Kathallekh ...	1,920	3	...	...	1,920	3		
		,, VII.—Ganiadeoli ...	1,280	2	...	...	1,280	2		
Ránikhet Sub-Division.	Ditto ...	,, VIII.—Karchuli ...	203	...	...	...	203	...		
		,, IX.—Chillianao ...	640	1	...	...	640	1		
		,, X.—Chaubatia ...	1,280	2	...	...	1,280	2		
		,, XII.—Padholi ...	640	1	...	...	640	1		
		,, XIII.—Dwarson ...	1,920	3	...	...	1,920	3		
		,, XIV.—Deolikhet ...	25	...	...	...	25	...		
		,, XV.—Siahi Devi ...	1,920	3	...	...	1,920	3		
		Total ...	21,559	33	...	...	21,559	33		
Lalitpur Division.	Lalitpur district.	Lalitpur	65	...	...	...	65	...		
		Talbehat	2,362	4	...	...	2,362	4		
			2,427	4	...	...	2,427	4		
		TOTAL ...	46,889	73	...	...	46,889	73		

DATED NAINI TAL:
The 9th July, 1888.

The areas are subject to correction.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle.

ANNUAL FORM No. 49—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of Bánda Forest, 1887-88—(*Unclassed State Forest*).

Division or Range.	Civil District or Territory.	Name of Forest.	*Area on 1st April, 1887.* Acres.	Equivalent in square miles.	*Added during the year.* Acres.	*Excluded or transferred to other heads.* Acres.	*Area on 31st March, 1888.* Acres.	Equivalent in square miles.	Number and date of Notification of addition or transfer.	Remarks.
		I.—Ránipur Kalianpur.								
		1. Mau	385·53	...	...	...	385·53	...		
		2. Unchadih	413·88	...	...	...	413·88	...		
		3. Sakrawan	644·80	...	...	...	644·80	...		
		4. Ránipur Kalianpur ...	2,697·84	...	...	...	2,697·84	...		
		5. Mámaniya or Katauta ...	2,250·24	...	...	...	2,250·24	...		
Bánda ...	Bánda district ...	6. Gaburha	221·66	...	...	...	221·66	...		
		7. Uldan	714·02	...	...	...	714·02	...		
		8. Rajuhan	4,618·80	...	...	...	4,618·80	...		
		9. Deori	4,273·31	...	...	...	4,273·31	...		
		*10. Nihi	2,109·61	...	...	...	2,109·61	...		
		*11. Maholi	948·76	...	...	...	948·76	...		
		*12. Kalianpur	2,670·66	...	...	...	2,670·66	...		
		Total ...	21,949·11	34	...	...	21,949·11	34		
		II.—Chauri Donda.								
		*13. Karauhan	728·43	...	...	...	728·43	...		
		*14. Sikapur-chita-ghati ...	69·43	...	...	...	69·43	...		
		15. Jara or Járo muafi ...	1,139·94	...	...	...	1,139·94	...		
Ditto ...	Ditto ...	16. Chauri	4,036·70	...	...	...	4,036·70	...		
		*17. Chulha	1,502·38	...	...	...	1,502·38	...		
		18. Parasin or Kulmar Parasin ...	3,623·30	...	...	...	3,623·30	...		
		19. Donda	5,416·14	...	...	...	5,416·14	...		
		Total ...	16,516·32	26	...	...	16,516·32	26		
		III.—Manikpur.								
		20. Chulhi	1,621·92	...	...	...	1,621·92	...		
		*21. Mahál Balkishan of Chulhi village.	26·25	...	...	...	26·25	...		
		*22. Mahál Mukhramgir of Chulhi village.	13·00	...	...	...	13·00	...		
Ditto ...	Ditto ...	23. Ambha	2,242·77	...	...	...	2,242·77	...		
		24. Karkapadri or Pandria ...	730·93	...	...	...	730·93	...		
		25. Cheriha Kalan	1,237·83	...	...	...	1,237·83	...		
		26. Amchor Narwa	4,216·66	...	...	...	4,216·66	...		
		27. Rukma Khurd	132·62	...	...	...	132·62	...		
		28. Area outside forest line ...	716·00	...	...	...	716·00	...		
		Total ...	10,937·98	17	...	...	10,937·98	17		

ANNUAL FROM No. 49—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of Bánda Forest, 1887-88 (*Unclassed State Forest*).

Division or Range.	Civil District or Territory.	Name of Forest.	*Area on 1st April*, 1888.		*Added during the year.*	*Excluded or transferred to other heads.*	*Area on 31st March*, 1887.		Number and date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
		IV.—Tikaria.								
Bánda ...	Bánda district ...	*29. Bhenda or Bhera	777·96	...	...	...	777·96	...		
		*30. Dadri or muafi	4,697·00	...	...	...	4,697·00	...		
		*31. Tikaria Jamanlai ...	2,892·39	...	...	...	2,892·39	...		
		*32. Gursarai	908·43	...	...	...	908·43	...		
		*33. Rukma Buzurg	1,978·21	...	...	...	1,978·21	...		
		*34. Marian Panwári or Mandayan Panwári.	1,885·68	...	...	...	1,885·68	...		
		Total ...	13,139·67	21	...	...	13,139·67	21		
		V.—Matdár.								
		35. Mutdár	6,729·10	10	...	...	6,729·10	10		
		Total ...	6,729·10	10	...	...	6,729·10	10		
		VI.—Koluwa.								
		36. Koluwa	6,182·00	10	...	...	6,182·00	10		
		Total ...	6,182·00	10	...	...	6,182·00	10		
		GRAND Total ...	75,454·18	118	...	...	75,454·18	118		

* Village areas administered under the $\frac{1}{16}$ arrangement

	Acres.
Total area, Government villages	54,245·99
Ditto $\frac{1}{16}$	21,208·19
Total area ...	75,454·18 = 118 square miles.

DATED NAINI TAL:
The 9th July, 1888.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle.

(46)

ANNUAL FORM No. 50.—[PRESCRIBED]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Prosecutions for breaches of Forest Rules during 1887-88.

Forest Division and Civil District	Cases pending from 1886-87	New cases of the year: Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year	Total cases	Disposed of during the year: Convictions — Cases	Convictions — Persons.	Acquittals — Cases.	Acquittals — Persons.	Total — Cases.	Total — Persons	Cases pending at close of year
Naini Tal Division					*I—Prosecutions in Courts of Law.*									
Kumaun district					Tried by Divisional Officer									
Naini Tal Sub Division .. .	..	6	3	1	...	10	10	7	9	3	8	10	17	
Bánikhet ditto	...	6	1	..	.	7	7	4	11	3	6	7	17	
					Tried by Cantonment Magistrate.									
Bániket ditto ..			19	2		21	21	8	17	13	34	21	51	
Total	...	12	23	3	...	38	38	19	37	19	46	38	85	
Kumaun Division					Tried by the Magistrate of the Bhabar									
Kumaun district	...	1	..		..	1	1	1	9	...	...	1	9	
					Tried by the Senior Assistant Commissioner, Kumaun									
	...	1			...	1	1	1	2	...		1	2	
Total	...	2				2	2	2	11	.	...	2	11	
Garhwál Division					Tried by Magistrate, Garhwal.									
Garhwal district	1	.		..	...	1	1	..	..	1	13	1	13	
					Tried by Magistrate, Bhábar									
Kumaun district			1			1	1		.	...	.		...	
Total	1	.	1	..		1	2	.		1	13	1	13	1 case—2 persons
Ganges Division					District Officer, Bijnor									
Bijnor district . .	41	...	...		8	3	4	3	3	1	5	4	8	
					District Officer, Garhwal									
Garhwál district	1		1	...	2	3	4	3	4		...	3	4	1
Total	2		1	.	5	6	8	6	7	1	5	7	12	1—1 person
Jhánsi Division.														
Jhánsi district	.	.	3	...	.	3	3	3	5	..	...	3	5	
Lalitpur Division														
Lalitpur district ...		...	14	..	...	14	14	10	22	4	5	14	27	
Banda Division.														
Bánda district .. .	...		9		...	9	9	9	14	...	1	9	13	
Total, II	3	14	51	3	5	73	76	49	96	25	72	74	168	cases 2—3 persons.

Note A.—One of the two cases shown as pending at the close of last year was found not to be a case at all and so was struck off

ANNUAL FORM No. 5'—[PRESCRIBED]

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Prosecutions for breaches of Forest Rules during 1887-88.

Forest Division and Civil District.	Cases pending from 1886-87	New cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of year
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total, new cases of the year		Convictions		Acquittals		Total		
								Cases.	Persons.	Cases	Persons.	Cases.	Persons	
Naini Tal Division														
Kumaun district—					*II—Cases compounded under section 67 of the Forest Act*									
Naini Tal Sub Division		6	179	5	33	223	223	223	316	..		223	316	
Ránikhet ditto		7	113	10	2	132	132	132	292		..	132	292	
Total, II		13	292	15	35	355	355	355	608	..		355	603	
Kumaun Division.														
Kumaun district		2	21	1	26	50	50	34	57			34	57	16
Garhwal Division														
Garhwal district		1	54	1	2	58	58	58	90		.	58	90	
Ganges Division.														
Garhwal district		...	30	1	47	78	78	76	99		...	78	99	
Lalitpur Division														
Lalitpur district			3			3	3	3	26			3	26	
Total		16	400	18	110	544	544	528	880			528	880	16
GRAND TOTAL, I AND II ...	3	30	451	21	115	617	620	577	976	25	72	602	1,048	18

Amount of compensation realized from compounded cases.

	Rs	a	p
Naini Tal Division	687	13	0
Kumaun ,,	370	0	0
Garhwal ,, ..	468	2	10
Ganges ,,	663	2	9
Lalitpur ,,	67	0	0
Total	2,256	2	7

DATED NAINI TAL
The 9th July, 1888

C BAGSHAWE
Offg Conservator of Forests, Central Circle

ANNUAL FORM No. 51—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of forest tracts protected from fire during the dry season, 1888—to accompany report for 1887-88.

Division.	Forest tracts.	Year in which protection commenced.	Area actually protected up to 30th June, 1887	During dry season of 1888.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
	I.—Areas under special protection.							
Naini Tal Sub-Division . .	Block I—Naini Tal Protected Forest	1876	19,040	19,347	1,208	18,139	390	
	Naini Tal Reserve— ...	1886 ...	19,635	22,400	117	22,283	152	
	Total		38,675	41,747	1,325	40,422	542	
Ránikhet Sub Division ...	Ránikhet Reserve—	1874	1,033	4,800		4,800	180	Cost included in Ránikhet Reserve.
	Padhoh Protected Forest	1882	320	640	.	640	21	
	Deolakhet „ „	1874		25	...	25	.	
	Chaubattia „ „	1882	95	1,280		1,280	19	
	Chilliana „ „ .	1884		640	..	640	17	
	Karchull „ „	1885		203	...	203	14	
	Gandeola „ „	1878	1,218	1,280	..	1,280	51	
	Kathalekh „ „	1878	1,621	1,920	.	1,920	72	
	Suni „ „	1880 . .	4,441	4,460		4,460	65	
	Sun „ „	1885 ...	561	640	.	640	20	
	Dwarson „ „ ...	1888		1,920	...	1,920	9	
	Bellekh „ „ ...	1888 .	...	640	...	640	6	
	Bhatronj „ „ .	1888 ...	.	1,280		1,280	7	
	Total	.	9,289	19,748	..	19,748	431	
	Total, I	.	47,964	61,495	1,325	60,170	973	
	II.—Areas protected by the ordinary establishment.							
Naini Tal Division—Naini Tal Sub-Division.	Gágar Ninglat proposed reserve ..	1888 .	...	10,812	2,988	7,824	96	
Ránikhet Sub-Division	Machor Protected Forest	1888	...	211	73	138	...	
	Sahi Devi „ „	1888	..	1,920		1,920		
	Total, II ..	..		12,943	3,061	9,882	96	
	Total, Naini Tal Division ...		47,964	74,438	4,386	70,052	1,069	

ANNUAL FORM No. 51—[Prescribed].

Forest Department, North Western Provinces and Oudh, Central Circle

Area of forest tracts protected from fire during the dry season, 1888 - to accompany report for 1887-88 – (concluded).

Division	Forest tracts.	Year in which protection commenced.	Area actually protected up to 30th June 1887	*During dry season of* 1888			Cost during the season.	Remarks.
				Area attempted to be protected	Failures.	Actually protected		
	Chaukhamri Range							
	Horau	1876	2,741	2,741	4	2,737	314	
	Nandhaur	1882	20,787	21,387	2	21,385	1,611	
	Lakhman Mandi	1883	1,880	2,000	7	1,993	59	
	Talla Des Range							
	Jaunla sál	1876	7,233	7,873	73	7,800	728	
Kumaun Division	Salani	1876	320	320		320	78	
	Deohagad	1887	5,251	5,311	...	5,311	384	
	Deokaura Range							
	Chanaula	1888	...	2,480		2,480	39	
	Kaskakhar	1888		3,840		3,840	32	
	Total, Kumaun Division		38,212	45,952	86	45,866	3,245	
	Shisham khata (Part of Palau Forest, Block No I)	1877	1,194	2,020		2,020	344	
	Mandalta (Ditto ditto)	1888		17,524	...	17,524	1,594	
	North Path Dún (Part of Path Dun Forest Block No. II)	1878	52,123	52,123	70	52 053	2,378	
	South Path Dun Ditto ditto)	1873	45,631	45,631		45,631	2,236	
Garhwal Division	Chilkia (Part of Chilkia Forest Block No IV)	1873	46,206	46,240	1,001	45,239	2,082	
	Kotah (Part of Kotah Forest Block No. V),	1877	23,281	23,296	465	22,833	1,190	
	Garhubalchand (Part of Garhubalchand Forest Block No. VI)	1877	7,064	7,112	...	7,112	926	
	Behar (Part of Behar Forest Block No VII),	1881	9,185	12,258	1,120	11,138	1,028	
	Total, Garhwál Division		184,684	206,206	2,666	203,550	11,778	
	Gora Range							
	Kunaun	1887	...	7,972	...	7 972	299	
	Kaura	1881	2,169	2,118		2,118	97	
	Andher Majhera	1881	1,371	5,138		5,138	192	
	Jogthaur	1881	781	788		788	78	
	Hazara	1881	1,115	1,175		1,175	105	
Ganges Division	***Udepur Range***							
	Gwalgurh	1887	...	3,435	16	3,419	128	
	Sukrao	1882	1,101	1,132	..	1,132	60	
	Kotra Range							
	Dabma	1886	8,805	9,704		9,704	784	
	Total, Ganges Division		15,342	31,462	16	31,446	1,693	

ANNUAL FORM No. 51—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of forest tract protected from fire during the dry season, 1888—to accompany report for 1887-88.

Division.	Forest tract.	Year in which protection commenced.	Area actually protected up to 30th June, 1887.	*During dry season of 1888.* Area attempted to be protected.	Failures.	Actually protected	Cost during the season.	Remarks.
	I.—Areas under special protection							
	Jhánsi Pargana							
	Dhukwan and Sukhwan Blocks ...	1874	1,483	1,483	..	1,483	50	
	Bajna Block	1888 ..	...	457	...	457		
	Total, I ...		1,483	1,940	...	1,940	50	
	II.—Areas protected by the ordinary establishment with the aid of villagers							
	Jhánsi Pargana.							
Jhánsi Division	Remaining forest blocks	1888 .		8,613	...	8,613	...	
	Mau Pargana Forests	...	..	6,035	...	6,035	..	
	Garotha ditto ...		.	5,127	.	5,127	...	
	Moth ditto		.	2,230		2,230	.	
	Total, II .	..	...	22,005	...	22,005	...	
	Total, Jhánsi Division		1,483	23,945		23,945	50	
	I.—Areas under special protection							
	Lalitpur Pargana.							
	Kachnoda Forest	1888 ...	..	190		190	100	
	Sairwana .	..	..	35	...	35		
	Balabehat Pargana.							
	Deogarh	1875 ...	998	998	..	998		
	Garauli ...		751	751	.	751		
	Total, I ...		1,749	1,974	.	1,974	100	
	II.—Areas protected from fire by the ordinary establishment.							
Lalitpur Division	Talbehat Forests	1888 ...	...	11,652	..	11,652	...	
	Banai		..	4,667	3	4,664	.	
	Binpur ...	...	...	4,745	...	4,745	...	
	Balabehat Forests.							
	The balance after deducting walled portion of Deogarh after allowing for 41 acres burnt in clearing fire-lines outside wall .	.	...	2,800	.	2,800	..	
	Total, II ...		...	23,864	3	23,861	...	
	Total, Lalitpur Division		1,749	25,838	3	25,835	100	
	Total, I .		289,434	349,029	4,083	344,946	17,839	
	Total, II ..	.		58,812	3,064	55,748	96	
	GRAND TOTAL FOR THE CIRCLE ...		289,434	407,841	7,147	400,694	17,935	

NOTE.—This form is for the dry season and not for the financial year, and therefore the date up to which expenditure is included must be filled in to suit the circumstances of each circle

DATED NAINI TAL)
The 9th July, 1888.)

C. EAGSHAWE,
Offg Conservator of Forests, Central Circle.

ANNUAL FORM No. 52—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Area of plantations, 1887-88.

Division.	Name of plantation	Area in acres. On 1st April, 1887	Added during the year	Excluded during the year	Area on 31st March, 1888.	Receipts Of the year Rs.	Charges Of the year Rs	Remarks.
Naini Tal Division.	*Regular plantations*							
Ránikhet Sub-Division,	Ránikhet Nursery	50	.		50	857	1,715	
	Total	50		--	50	857	1,715	
	Cultural operations							
	Jabar	147	.	.	147	...		Of this area about 50 acres are stocked with coppice and natural seedlings.
Naini Tal	Chuna	77	19	.	96		12	
	Kahla	35	4		39	...	...	
	Nairwari		43	...	43	...	.	Walnut and ash
	Deopata		47	..	47	...	...	Deodar, walnut, ash, tilonj and horse chestnut.
	Kilodhunga		25	.	25	...	2	Deodár, walnut, ash and kharsu
	Bhadli ..		33		33	...	6	Ash and banj
	Maulani	...	49	.	49	...	41	Banj, tilonj kharsu, ranj, ash and walnut.
	Chatrani		5	...	5	.	7	Banj, chír
	Various other plantations imperfectly stocked or success uncertain		.	..		.	15	Area not known
	Total, Naini Tal Sub Division	259	225		484		83	
Ránikhet Sub-Division,	Jakhdeo (upper)	367	..	...	367	..	..	Area approximate.
	„ (lower)							
	Garkhet — ..							
	Jainoli							
	Darmikhet							
	Ghingarukhal							
	Various other plantations imperfectly stocked, incomplete or success uncertain			..	...	...	44	Area not known.
	Total, Ránikhet Sub-Division	367			367	..	44	
	Naini Tal Sub-Division	259	225		484		83	
	Grand Total, Naini Tal Division ...	626	225	...	851	..	127	

Kumaun ..	Haldwáni and Chorgalia	...	..	...	.	...	100	Planting trees in office and Depôt compound.
	Kota Range							
Garhwál ...	Chopra plantation	25	...	...	25	...	41	
	Petty cultural operations, Ramnagar, Mohan, Rampur and Leta	..	.			...	88	
	Total .	25	...	...	25	.	129	
Ganges ...	Chila	1½	...	...	1½	...	.	
	Haldukhata	½	...	...	½	..	70	Mango groves in camping grounds.
	Sanch	3	...	.	3	.	.	
	Total .	5	...	.	5	.	70	
Jhánsi ..	Sukhwan and Dakhwan							
	Babina							
	Magarpur							
	Ganapura	657	5	40	652	.	343	
	Khera							
	Bhaaneo, &c.							
	Total	657	5	40	652	...	343	
Lalitpur ..	Kachnauda	25	...	...	25	.	3	
	Sonrae garden		..	...		...	18	
	Total . .	25		..	25	...	21	
Bánda ..	Mamanya	...	...	...	...	...	2	Teak
	Kulaha		3	...	3	..	...	Teak, sisham, mahua, jaman
	Total ..	...	3	...	3	...	2	
	Grand total of cultural operations ...	1,368	233	40	1,561	.	702	
	Add for regular plantations ...	50	...	...	50	857	1,715	Total expenditure under AVIII*d*
	Total ...	1,418	233	40	1,611	857	12,507	

DATED NAINI TAL
The 9th July, 1888

C BAGSHAWE,
Offg Conservator of Forests, Central Circle

FORM No. 53.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Trees felled or girdled by Government agency, by purchasers, or by right-holders or grantees during 1887-88.

Division.	Description of trees.	*Jardinage or selection fellings.*				*Thinnings.*				Grand Total.
		Government Agency.	Purchasers.	Right-holders and grantees.	Total.	Government Agency.	Purchasers.	Right-holders and grantees.	Total.	
Naini Tal Division	Chír	1,006	771	4,856	6,633	...	...	...	...	6,633
	Oak	276	1,088	621	1,987	...	...	...	...	1,987
	Tún	...	...	1	1	...	...	...	...	1
	Miscellaneous	1,197	776	313	2,286	...	...	...	...	2,286
	Total	2,481	2,635	5,791	10,907	...	...	...	...	10,907
Kumaun	Sál	...	1,068	444	1,512	...	...	...	...	1,512
	Seún	...	260	7	276	...	...	...	...	276
	Sisham	...	64	6	70	...	...	...	...	70
	Tún	...	39	12	51	...	...	...	...	51
	Haldu	...	558	23	581	...	...	...	...	581
	Chír	...	4	...	4	...	...	...	...	4
	Miscellaneous	...	846	381	1,227	...	...	...	...	1,227
	Total	...	2,848	873	3,721	...	...	...	...	3,721

Garhwál	Sál	... .	...	4,747	568	5,385	...	933	.	933	6,268
	Soin	... ...	...	1,091	4	1,095	.	.	...	...	1,095
	Haldu	... ...	..	3	23	26	..	..	.	..	26
	Miscellaneous	.	...	32	1,941	1,973	..	1,488	..	1,488	3,461
		Total .		5,873	2,536	8,429	...	2,421	.	2,421	10,850
Ganges	Sal	... ...		80	57	137			...		137
	Soin	. ...		419	20	439	..		..	...	439
	Sisham	... .. .	...	...	6	6	.			.	6
	Tún	... .	...		...	...	...		..	...	...
	Haldu	...	...	70	...	70	.	..	...	...	70
	Miscellaneous	... .		2,989	1,429	4,418	..	...	...	...	4,418
		Total ...	.	3,558	1,512	5,070	...	...	...		5,070
Jhánsi	Miscellaneous	... ..	811	214	30	1,055	.	...	...	..	1,055
Lalitpur	Teak ...	...	148	42	.	190	...	..	..	.	190
	Miscellaneous	...	4,498	2,279	758	7,535	...	...	...		7,535
		Total	4,646	2,321	758	7,725	...	.	.		7,725
Bánda	Miscellaneous	... .	1,333	11,804	...	13,157	...	...		...	13,157
		Grand Total .	9,291	29,253	11,520	50,064		2,421	...	2,421	52,485

Abstract.

	No of trees.
Sál	7,917
Sein	1,810
Sisham	76
Tún	52
Haldu	677
Chir	6,637
Oak	1,987
Teak ...	190
Miscellaneous	33,139
Grand Total ..	52,485

Dated Naini Tal
The 9th July, 1888

C. BAGSHAWE,
Offg Conservator of Forests, Central Circle.

ANNUAL FORM No. 54A.

Forest Department, North-Western Provinces and Oudh, Central Circle.

Outturn of timber and firewood during the year 1887-88.

Division.	Range.	Description of fellings.	In cubic feet						Remarks
			Timber in the rough.	Scantling	Poles.	Firewood.	Charcoal	Total.	
1	2	3	4	5	6	7	8	9	
		I—Reserved Forests.							
		Jardinage or selection fellings ...	18,758		276	40,798	15,740	75,567	
		Standing, dry, or fallen wood	...		...	36,649	360	37,009	
		Total	18,758		276	77,442	16,100	112,576	
Naini Tal	Naini Tal and Rámkhet	*Protected Forests.*							
		Jardinage or selection fellings ...	61,870		4,661	109,473	39,043	215,047	
		Clearance of boundary lines, fire-lines, or roads		...		10,066	7,420	17,486	
		Standing, dry, or fallen wood ...		...		120,634	706	121,340	
		Total ...	61,870		4,661	240,173	47,169	353,873	
		Grand Total ...	80,628	...	4,937	317,615	63,269	466,449	
		I—Reserved Forests							
		Jardinage or selection fellings ...	30,161	106,245	4,198		...	140,604	
Kumaun	Deohauri, Chaubhainsi and Talla Des.	Clearance of boundary lines, fire-lines, or roads ...	...	1 599	5,512	...	...	7,111	
		Standing dry, or fallen timber	44,085	26,832	9,568	194,324	60,564	335,373	
		Total ...	74,246	134,676	19,278	194,324	60,564	483,088	
		I—Reserved Forests.							
		Jardinage or selection fellings	9,796	145,598	319	...		155,713	
Garhwal	Dhárá, Koal and Patli Dun	Thinnings			807	...	...	807	
		Clearance of boundary lines, fire-lines, or roads ...	...		1,365	...		1,365	
		Standing, dry or fallen wood	1,364	38,619	2,706	142,974	24,900	210,563	
		Total	11,159	184,217	5,197	142,974	24,900	368,447	
		I—Reserved Forests.							
		Jardinage or selection fellings ...		41,578		...	...	41,578	
Ganges	Gori, Udepur and Kothri. ...		432	119,580	2,749	501,147	13,417	637,315	Dry.
		Total	432	161,098	2,749	501,147	13,417	678,893	

		I—Reserved Forests						
Jhansi	Jhánsi	Jardinage or selection fellings		..	3,165	4,476	320	7,961
		Total			3,165	4,476	320	7,961
		I—Reserved Forests						
		Jardinage or selection fellings	200	..	10,156	33,540	5,000	48,896
Lalitpur	Lalitpur	*II—Protected Forests*						
		Jardinage or selection fellings	30		2,497	3,000	..	5,527
		Total	230	...	12,653	36,540	5 000	54,423
		III—Unclassed State Forests						
Banda	Karwi	Jardinage or selection fellings			26,735	50,910	11,175	88,820
		ABSTRACT						
		I—Reserved Forests						
		Jardinage or selection fellings	59,396	412,941	20,563	579,956	34,477	1,107,633
		Thinnings		..	807			807
		Clearances of boundary lines						
		Fire lines or roads		1,599	6,877		.	8,476
		Standing, dry, or fallen wood ...	45,449	65,451	12,274	373,947	85,824	582,945
		Total	104,845	479,991	40,521	953,903	120,301	1,699,861
		II—Protected Forests						
		Jardinage or selection fellings ..	61,900	...	7,158	112,473	39,043	220,574
		Clearances of boundary lines, fire lines and roads				10,066	7,420	17,486
		Standing, dry, or fallen wood .	..		a	120,634	706	121,340
		Total	61,900		7,158	243,173	47,169	359,400
		III—Unclassed State Forests.						
		Jardinage or selection fellings ..			26,735	50,910	11,175	88,820
		GRAND TOTAL	166,745	479,991	74,714	1,247,986	178,645	2,148,081

DATED NAINI TAL
The 9th July, 1888.

C BAGSHAWE,
Offg Conservator of Forests Central Circle

FORM No. 54B.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Outturn of timber and firewood during the year 1887-88.

Division.	Range.	Description of material.	Removed by— Government agency.	Purchasers.	Free grants.	Right-holders.	Remarks.
1	2	3	4	5	6	7	8
		I.—Reserved Forests	C. ft.	C. ft.	C. ft	C. ft.	
		Sál	...	...	...	570	
		Spin	...	...	...	40	
		Gethi	...	...	...	380	
		Chír	...	16,640	676	360	
		Oak	...	...	...	29	
		Miscellaneous	...	244	...	95	
		Total, Timber	...	16,884	676	1,474	
		Firewood	44,386	33,056	..	...	
		Charcoal	...	16,100	..	...	
		Total	44,386	66,040	676	1,474	
		II.—Protected Forests.					
Naini Tal ..	Naini Tal and Ránikhet,	Sál	...	...	...	640	
		Gethi	...	...	...	210	
		Chír	...	10,120	110	48,904	
		Oak	...	279	4	1,311	
		Tún	...	...	...	30	
		Alder	...	592	...	50	
		Rhododendron	...	..	...	...	
		Miscellaneous	...	706	3,175	400	
		Total, Timber	...	11,697	3,289	51,545	
		Firewood	141,700	98,473		...	
		Charcoal	...	47,169	...	...	
		Total	141,700	157,339	3,289	51,545	
		GRAND TOTAL	186,086	223,379	3,965	53,019	466,449

			I.—Reserved Forests						
Kumaun	Dechauri, Chaubhainsi and Talla Des.	Sal green			42,519	14,090	4,447		
		„ dry			40,167	254	1,020		
		Haldu green			27,507	350	592		
		„ dry			6,265		279		
		Sein green			26,602	158			
		„ dry			1,226				
		Jaman green			2,190				
		„ dry			196				
		Shisham green			5,600		49		
		„ dry			11,102	3 955			
		Tún green			1,306		277		
		„ dry			391				
		Sandan green					6		
		„ dry			71		6		
		Chír green			206				
		„ dry			9				
		Miscellaneous green			3,776	2,227	8,813		
		„ dry			6,214	9,180			
			Total, Timber		182,547	30,164	15,489		
			Firewood		85,568	108,756			
			Charcoal		60,326	238			
			Grand Total		328,441	139,158	15,489	483,088	
			I.—Reserved Forests.						
Garhwal	Dhára, Kosi and Patli Dún	Sal green			119,505	3,289	719		
		„ dry			35,487	23	376		
		Haldu green			227	309	52		
		„ dry			404				
		Sein green			30,313	57			
		„ dry			272				
		Miscellaneous green			903	988	1,522		
		„ dry			5,845		282		
			Total, Timber		192,956	4,666	2,951		
			Firewood		142,754	220			
			Charcoal		24,900				
			Grand Total		360,610	4,886	2,951	368,447	

FORM No. 54B.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Outturn of timber and firewood during the year 1887-88.

Division.	Range.	Description of material.	Removed by— Government agency.	Purchasers.	Free-grants	Right-holders.	Remarks.
1	2	3	4	5	6	7	8
		I—Reserved Forests.	C. ft.	C. ft.	C. ft.	C. ft.	
Ganges	Gori, Udepur and Kothri,	Sál green	...	972	2,219	30	
		„ dry	...	63,073	...	.	
		Haldu green	...	1,528	..	...	
		„ dry	...	150	...	...	
		Sem green	...	14,340	1,362	...	
		„ dry	...	17,894	..		
		Jamun green	...	1,216	...	...	
		„ dry	...	90	...	...	
		Shisham green	...	655	131	...	
		„ dry	...	1,734	...	...	
		Tún green	...	37	...	.	
		„ dry	...	17	...	...	
		Sandan green	...	1,410	26	.	
		„ dry	..	4,952	...	.	
		Bakli green	...	708	...		
		Miscellaneous green	...	8,023	8,845	76	
		„ dry	..	29,841	...	...	
		Total, Timber	...	151,640	12,583	106	
		Firewood	...	373,092	...		
		Charcoal	.	13,417	...		
		Grand Total	...	539,149	12,583	106	550,838
		I.—Reserved Forests.					
Jhánsi	Jhánsi	Miscellaneous bullies	...	642	...	90	
		Firewood	...	2,710	...	.	
		Charcoal	...	.	.		
		Total	...	3,352	...	90	7,961

			I.—Reserved Forests.						
Lalitpur	Lalitpur	Timbers (myors, &c).			6,168	184	16		
		Miscellaneous ballies				2,988	1,000		
			Total, Timber		6,168	3,172	1,016		
		Firewood			13,220	17,080	3,240		
		Charcoal			5,000				
			Total		24,388	20,252	4,256		
			II.—Protected Forests.						
		Timber (myors, &c).						30	
		Miscellaneous ballies			1,015	1,022		460	
			Total		1,015	1,022		490	
		Firewood			1,600	1,200		200	
		Charcoal							
			Total		2,615	2,222		690	
			Grand Total		27,003	22,474	4,256	690	54,423
			III.—Unclassed State Forests.						
Binda	Karwi	Miscellaneous ballies, &c.			5,859	20,876			
		Firewood				50,910			
		Charcoal				11,175			
			Total		5,859	82,961			88,820

ABSTRACT.

	I.—Reserved Forests.					
Timber	8,601	547,841	49,105	20,110		625,657
Firewood	59,372	654,260	112,216			825,848
Charcoal	5,320	114,743	238			120,301
Total, I	73,293	1,316,844	161,559	20,110		1,571,806
	II.—Protected Forests.					
Timber	1,015	12,719	3,289	52,035		69,058
Firewood	143,300	99,673		200		243,173
Charcoal		47,189				47,189
Total, II.	144,315	159,561	3,289	52,235		359,400
	III.—Unclassed State Forests.					
Timber	5,859	20,876				26,735
Firewood		50,910				50,910
Charcoal		11,175				11,175
Total, III	5,859	82,961				88,820
Grand Total	223,467	1,559,366	164,848	72,345		2,020,026

Dated Naini Tal:
The 9th July, 1868.

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle.

ANNUAL FORM No. 55—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Outturn of Minor Forest Produce during the year 1857-58.

Division	Description of produce.	PRODUCE REMOVED OR UTILIZED										Remarks.
		By Government agency		*By purchasers*		*By free grants*		*By right holders*		*Total*		
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	
	I—Reserved Forests		Rs		Rs.		Rs.		Rs.		Rs	
Nainí Tal	Bamboos, scores	...		165	42	..				165	42	
	Grazing	...			1,218	..		..			1,218	
	Other minor produce	.		.	296				.		296	
	Total . .		...	..	1,556				..		1,556	
	II—Protected Forests											
	Bungal, scores ...			669	28		..	..	...	669	28	
	Grazing .. .		..	.	395		..				375	
	Other minor produce .	..		.	1,086			.			1,086	
	Total .	..			1,509	.	...				1,509	
	Grand Total ...		..		3,065	.				.	3,065	
	I—Reserved Forests											
Kumaun	Bamboos, scores .	...	.	85,936	8,031	716	144	755	56	87,407	8,231	
	Grazing				7,168	.	..				7,168	
	Other minor produce .			...	*16,437		1,293				17,730	*Rs 34 on account of drift wood included in this.
	Total .		..		31,636		1,437		56	..	33,179	
	I—Reserved Forests											
Garhwál	Bamboos, scores . .		.	185,487	18,396			2,085	238	187,572	18,634	
	Grazing		..	...	2,698	.			...		2,698	
	Other minor produce		..	.	†9,205				.	.	9,205	†Rs 1,166 on account of drift-wood are included in this
	Total .		...	..	30,299	.		...	238	..	30,537	

		I—Reserved Forests												
Ganges		Bamboos, scores	...	...	..	620,159	61,085	263	24	3,660	331	624,101	61,440	
		Grazing	...	.	.		4,298		.		3,108	...	7,401	
		Other minor produce		...	.		†4,776		2		466	.	5,244	†Rs. 25 on account of drift-wood are included in this.
		Total	.	...	...	..	70,154	...	26		3,905		74,085	
		I—Reserved Forests												
Jhánsi	...	Bamboos scores	...	...	827	393	78	22	...	..			313	
		Grazing	..	.				5,330		..		905	5,330	
		Other minor produce	.	.		383	...	354		...	...		737	
		Total				776		5,726		..			6,502	
		I.—Reserved Forests.												
		Bamboos, scores	.	...	87,257	3,518	5,359	632					4,050	
		Grazing	..			18	..	2,591	..			33,116	2,609	
		Other minor produce	...	...		.		§2,270	.	1	.	...	2,271	§Rs 5 on account of drift wood are included in this.
Lalitpur		Total	...			3,536	...	5,393	...	1			8,930	
		II—Protected Forests												
		Bamboos, scores	...	...	2,686	324	229	28			...	2,913	347	
		Grazing							.	...			...	
		Other minor produce		.				20	.		...	...	20	
		Total	...			324	...	43					367	
		Grand Total		..		6,360		5,436		1			9,297	
		III—Unclassed State Forests												
Banda	...	Bamboos, scores	...	...	1,196	189	1,742	868	...	.	.	2,933	541	
		Grazing	..	...				917	.	..	.	...	917	
		Other minor produce	..				..	1,846	...	...	.	...	1,853	Rs. 2 on account of drift wood are included in this
		Total	..			196	..	3,115	..	...	...	...	3,311	

ABSTRACT.

ANNUAL FORM No. 55—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Outturn of Minor Forest Produce during the year 1887-88.

Division	Description of produce	PRODUCE REMOVED OR UTILIZED										Remarks.
		By Government agency		*By purchasers.*		*By free grants*		*By right-holders.*		*Total*		
		Quantity	Value.	Quantity	Value.	Quantity	Value	Quantity	Value	Quantity	Value	
	I—Reserved Forests		Rs.		Rs.		Rs.		Rs.		Rs.	
	Bamboos, scores ..	28,084	2,911	897,684	88,159	978	168	6,520	625	933,266	92,862	
	Grazing ...		18		23,318				3,106	...	26,444	
	Other minor produce ...	...	383		*33,338		1,296		466		35,483	*Rs. 1,230 on account of drift-wood are included in this.
	Total		4 312	...	1,44,814		1,464		4,199	..	1,54,789	
	II—Protected Forests											
	Bamboos, scores ..	2,686	324	899	51	..	...		...	3,584	375	
	Grazing	...	...	...	395	...			..		395	
	Other minor produce				1,106	...					1,106	
	Total ...		324	...	1,552		...	...	...		1,876	
	III—Unclassed State Forests.											
	Bamboos, scores .	1,196	189	1,742	352	...	.		..	2,938	541	
	Grazing . .				917		...		.		917	
	Other minor produce .		7		†1,846		..		..	..	1,853	†Rs 2 on account of drift wood are included in this.
	Total ...	.	196	...	3,115					...	3,311	
	GRAND TOTAL	..	4,833	..	‡1,49,481	...	1,464		4,199		1,59,976	‡Rs. 1,232 on account of drift-wood are included in this.

DATED NAINI TAL
The 9th July, 1888

C RAGSHAWE,
Offg Conservator of Forests, Central Circle

ANNUAL FORM No. 56—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Account of timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally during the year 1887-88.

Particulars	No or quantity	Cubic feet	Total of each head: No or quantity	Total of each head: Cubic feet
Balance at commencement of the year				
Chir karis	1,383	2,201		
Chir planks	1,860	628		
Sal logs	25	1,060		
Miscellaneous ballis	3,121	9,709		
Axle trees	133	266		
Yokes	12	6		
Plough-shafts	15	7		
Thin ballis for roofing	303	403	6,359	14,340
Firewood Mds	486	972	486	972
Charcoal	194	1,940	194	1,940
Bamboos ... No	114,355	No	114,355	No
Kiras	368	No	368	No
Kuras	20,033	No	20,033	No.
Received from the forests on depôts				
Miscellaneous ballis	3,111	10,242		
Axle trees	42	84		
Yokes	14	7		
Thin ballis for roofing	67	90	3,234	10,423
Firewood Mds	79,014	1,87,157	79,914	1,87,157
Charcoal	32	320	32	320
Bamboos No	491,588	No	491,588	No
Kuras	1,369	No	1,369	No
Kuras	36,591	No	36,591	No.
Received from the forests and sold locally				
Oak blocks	2	4		
Miscellaneous ballis	4,656	8,804		
Axle trees	100	300		
Thin ballis for roofing	35	35		
Shafts for carts	180	1,080	4,973	10,313
Firewood Mds	7,845	15,515	7,845	15,515
Charcoal	500	5,000	500	5,000
Bamboos No	232,543	No	232,543	No
Kuras	16,207	No	16,207	No
Grass Bdls	22,600	Bundles	22,600	Bundles
Hides No	8	No	8	No
Received by transfer from sale depôts				
Miscellaneous ballis	100	435	100	435
Bamboos No	900	No	900	No.
Removed by purchasers from depôts				
Chir karis	1,248	1,956		
Chir planks	965	445		
Sal logs	25	1,060		
Miscellaneous ballis	3,860	12,449		
Axle trees	30	60		
Yokes	12	6		
Plough shafts	11	5		

ANNUAL FORM No. 56—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Account of timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally during the year 1887-88—(continued).

Particulars	No. or quantity.	Cubic feet.	Total of each head: No. or quantity.	Total of each head: Cubic feet.
Removed by purchasers from depôts—(concluded).				
Thin ballis for roofing	109	145	6,360	15,126
Firewood ... ... Mds. ...	80,096	187,521	80,096	187,521
Charcoal ... ... ,, ...	104	1,040	104	1,040
Bamboos ... ... No. ...	404,941	No.	404,941	No.
Kiras ... ... ,, ...	1,615	No.	1,615	No.
Kurias ... ... ,, ...	61,827	No.	61,827	No.
Sold locally.				
Oak blocks ...	2	4		
Miscellaneous ballis	4,656	8,894		
Axle tree	100	300		
Thin ballis for roofing	35	35		
Shafts of carts	180	1,080	4,973	10,313
Firewood ... ... Mds. ...	7,845	15,515	7,845	15,515
Charcoal ... ... ,, ...	500	5,000	500	5,000
Bamboos ... ... No. ...	232,543	No.	232,543	No.
Kurias ... ... ,, ...	16,207	No	16,207	No.
Grass ... ... Bdles. ...	22,000	Bundles.	22,000	Bundles.
Hides ... ... ,, ...	8	No.	8	No.
Lost or written off as useless.				
Firewood ... ... Mds. ...	127	254	127	254
Charcoal ... ... ,, ...	17	170	17	170
Kiras ... ... No. ...	22	No.	22	No.
Kurias ... ... ,, ...	244	No.	244	No.
Used by Department.				
Miscellaneous ballis	24	87	24	87
Bamboos ... ... No. ...	300	No.	300	No.
Kurias ... ... ,, ...	8	No.	8	No.
Transferred to other sale depôts				
Miscellaneous ballis ... ... No ...	100	435	100	435
Bamboos ... ... No. ...	900	No.	900	No.
Grand Total — Timber	...	...	14,000	25,511
Grand Total — Firewood ... ... Mds. ...	...	...	88,248	203,144
Grand Total — Charcoal ... ... ,, ...	...	...	726	7,200
Grand Total — Bamboos ... ... No. ...	...	...	830,380	No.
Grand Total — Kiras ... ... ,, ...	...	...	1,737	No.
Grand Total — Kurias ... ... ,, ...	...	...	82,421	No
Grand Total — Grass ... ... Bdles. ...	...	...	22,000	Bundles.
Grand Total — Hides ... ... No. ...	...	...	8	No.

ANNUAL FORM No 56—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Account of timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally during the year 1887-88—(concluded).

Particulars		No or quantity	Cubic feet	Total of each head: No or quantity	Total of each head: Cubic feet
Balance at close of the year					
Chir karris		135	245		
Chir planks		395	183		
Miscellaneous ballis		2,342	7 075		
Axle trees		145	290		
Yokes		14	7		
Plough shafts		5	2		
Thin ballis for roofing		281	818	3,207	8,750
Firewood	Mds	177	354	177	354
Charcoal	"	105	1,050	105	1,050
Bamboos	No	200,702	No	200,702	No
Kurns	"	100	No	100	No
Kurjas	"	4,145	No	4,145	No
Grand Total — Timber		...		14 660	35,511
Firewood	Mds	...		88,245	203 644
Charcoal	"			726	7,289
Bamboos	No			880,480	No
Kurns	"			1 737	No
Kurjas	"			82,431	No
Grass	Bdles			22,600	Bundles
Hides	No			8	No

Dated Naini Tal
The 9th July 1888

(BAGSHAWE,
Offg. Conservator of Forests, Central Circle

ANNUAL FORM No 57—[Prescribed].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Abstract showing the value of Timber and other Produce at sale depôts for the year 1887-88.

Description of timber and other produce.	*On hand at commencement of the year.*			*On hand at close of the year*			*Difference in value*		Remarks.
	Number.	Cubic feet	Value	Number.	Cubic feet.	Value	In favor of the year	Against the year	
TIMBER.			Rs.			Rs	Rs	Rs	
Sál logs ...	25	1,060	530						
Chir karis ...	1,383	2,201	194	135	245	182			
„ planks ...	1,360	628	1,753	895	183		...		
Miscellaneous ballis	3,121	9,769	557	2,342	7,675	434			
Axle trees ..	133	236	12	115	220	13			
Thin ballis for roofing	303	408	28	261	348	24		...	
Plough-shafts	10	7	2	5	2	...		...	
Yokes ...	12	6	1	14	7	2	...		
Total Timber ...	6,353	14,340	2,477	3,297	8,750	655	...	1,822	
FIREWOOD AND CHARCOAL.									
Firewood Mds	486	972	75	177	354	91	..	...	
Charcoal ... „	194	1,940	166	105	1,050	50	...		
Bamboos ... Nos	111,355	...	1,033	2,037	...	1,448	...	...	
Kirsa .. „ ...	368	...	35	100		9			
Kurias .. „	20,038	...	241	4,145		21	..	...	
Total, Fuel, &c. ...	...	2,912	1,490	.	1,404	1,565	75	...	
Total ...	.	..	3,967	.	.	2,220	75	1,822	

Net difference against the year, Rs 1,747.

FORM No. 57.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Abstract showing the value of Live and Dead Stock for the year 1887-88.

Description of live and dead stock	*On hand at commencement of the year.*		*On hand at close of the year*		*Difference in value.*		Remarks
	Number.	Value.	Number	Value	In favor of the year	Against the year.	
LIVE STOCK.		Rs		Rs.	Rs.	Rs	
Elephants ...	10	14,800	9	14,000		...	
Bullocks ...	51	870	47	770	...		
Total, Live stock	61	15,670	56	14,770	...	900	
DEAD STOCK.							
Buildings	91	72,996	104	79,086		..	
Sheds	4	866	4	866	...	...	
Tools and plant	15,180	14,854	14,940	16,093		..	
Carts ..	26	637	26	697	...		
Almirahs	5	195	5	195	...		
Gunpowder barrels	2	86	2	86		...	
Slow match barrels ...	1	84	1	84	..		
Total, Dead stock	15,309	89,518	15,082	97,019	7,501	...	
Total ..	.	1,05,188		1,11,789	7,501	900	

Net difference in favor of the year, Rs 6,601

DATED NAINI TAL: *The 9th July*, 1888.

C. BAGSHAWE,

Offg Conservator of Forests, Central Circle.

ANNUAL FORM No. 58—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Summary of Revenue of the different divisions during 1887-88.

Budget heads.	Direction	Bánda Division.	Ganges Division.	Garhwál Division.	Kumaun Division.	Jhánsi Division.	Naini Tal. Division.	Lalitpur Division.	Total.
Receipts.									
I.—Timber and other produce removed from the forests by Government agency:—		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
(a) Timber	...	448 10 11	...	...	529 15 4	163 9 0	1,170 6 3	811 7 10	3,124 1 4
(b) Firewood and charcoal	...	...	...	...	...	220 3 9	35,172 9 10	400 1 0	35,792 14 7
(c) Bamboos	...	158 8 9	...	...	...	393 7 3	...	3,841 10 10	4,423 10 10
(d) Sandal-wood	...	...	...	...	...	...	...	...	...
(e) Grass and other minor produce	...	6 10 0	...	...	...	382 10 6	...	18 5 0	407 9 6
II.—Timber and other produce removed from the forests by Consumers or Purchasers:—									
(a) Timber	...	471 5 0	46,334 8 1	1,10,530 6 3	77,934 2 11	30 2 8	5,660 12 0	813 11 3	2,41,775 0 2
(b) Firewood and charcoal	...	575 6 11	2,477 4 5	2,078 10 3	4,938 5 8	135 1 6	5,249 7 9	204 0 0	15,658 4 6
(c) Bamboos	...	351 10 0	61,085 6 2	18,395 9 10	8,081 2 0	22 4 0	69 10 0	553 6 0	88,561 0 0
(d) Grazing and fodder grass	...	917 1 0	4,293 0 6	2,698 9 5	7,168 7 9	5,349 10 0	1,612 11 6	2,590 13 0	24,630 5 2
(e) Other minor produce	...	1,843 11 11	4,751 4 11	8,088 13 0	10,402 15 11	354 2 6	1,381 11 3	2,284 13 9	35,057 9 3
III.—Confiscated drift and waif-wood	...	2 4 3	23 0 0	1,166 4 0	34 0 0	...	...	4 12 0	1,232 4 3
IV.—Revenue from forests not managed by Government:—									
(a) Duty on foreign timber and other forests produce	...	...	...	...	...	...	...	...	...
(b) Revenue from shared and private forests	...	...	...	...	...	...	...	...	...
V.—Miscellaneous—									
(a) Fines and forfeitures	...	...	50 0 0	117 4 0	169 0 0	...	769 9 0	...	1,105 13 0
(b) Refunds	...	...	10 9 0	18 0 6	126 4 0	...	39 3 2	...	194 0 8
(c) Other sources	...	615 6 10	1,002 3 2	6,349 10 2	85 2 7	194 15 6	29 0 0	20 13 0	8,297 2 3
Total, Receipts	...	5,620 11 7	1,20,029 4 3	1,49,393 3 5	1,15,469 8 2	7,236 2 8	51,155 0 9	11,545 12 8	4,60,449 11 6

Calcutta,
The 30th May, 1888.

JAS TAYLOR,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 58—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Summary of Expenditure of the different divisions during 1887-88.

Budget heads.	Direction.	Bánda Division.	Gangea Division.	Garhwál Division.	Kumaun Division.	Jhánsi Division.	Naini Tal Division.	Lalitpur Division.	TOTAL.
A.—CONSERVANCY AND WORKS.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other produce removed from the forests by Government agency :—									
(a) Timber	...	176 9 6	...	...	6,107 15 10	223 1 3	5 4 0	238 9 6	2,751 8 1
(b) Firewood and charcoal	...	...	...	...	...	108 5 10	17,114 11 3	145 5 4	17,368 6 5
(c) Bamboos	...	116 9 10	...	...	...	34 13 3	...	1,295 2 3	1,446 9 4
(d) Sandal-wood	...	...	...	...	...	...	...	...	...
(e) Grass and other minor produce ...	...	...	...	...	...	168 4 3	...	...	168 4 3
II.—Timber and other produce removed from the forests by Consumers or Purchasers	...	...	8,232 13 1	7,196 6 10	7,029 10 2	...	214 3 9	328 11 4	23,001 13 2
III.—Confiscated, drift and waif wood	...	...	...	...	...	...	...	...	...
IV.—Revenue from forests not managed by Government :—									
(a) Duty on foreign timber and other forest produce ...	...	...	...	...	...	...	...	...	...
(b) Revenue from shared and private forests ...	...	...	...	...	...	...	...	...	...
V.—Rent of leased forests, and payments to shareholders in forests managed by Government	...	994 2 1	...	...	...	...	...	...	994 2 1
VI.—Live Stock, Stores, Tools and Plant —									
(a) Purchase of cattle	...	...	...	...	...	107 4 0	...	200 0 0	307 4 0
(b) Feed and keep of cattle	...	...	1,179 10 0	2,648 3 3	1,120 9 4	339 10 9	...	1,698 0 2	6,986 1 6
(c) Purchase of Stores, Tools and Plant ...	6 6 0	...	388 7 0	702 12 0	565 2 0	63 7 6	130 15 9	240 0 0	2,097 2 3
VII.—Communications and buildings :—									
(a) Roads and bridges	...	50 0 0	4,821 15 3	5,540 13 10	6,022 11 6	75 0 0	1,234 14 6	250 0 0	27,993 7 1
(b) Buildings	232 13 0	399 12 11	3,999 10 0	3,499 2 5	7,552 3 6	13 5 3	305 7 3	247 13 3	16,050 3 7
(c) Other works	...	...	18 9 0	293 2 6	...	4 8 0	...	...	315 10 6
VIII.—Demarcation, improvement and extension of forests :—									
(a) Demarcation	...	84 8 0	15 4 0	176 2 3	664 11 0	...	284 0 0	...	1,224 9 3
(b) Compensation for land and rights	...	...	9 10 8	...	...	...	...	...	9 10 8
(c) Surveys and working plans	...	...	13 0 0	...	...	...	306 11 0	...	318 11 0
(d) Sowing and planting	...	2 0 0	69 8 0	128 9 5	99 13 11	343 2 0	1,342 3 3	21 1 6	2,506 6 1
(e) Protection from fire	225 15 0	...	1,553 2 0	12,088 5 5	8,206 5 10	50 0 0	679 1 11	200 0 0	18,032 14 2
(f) Other works	...	...	14 4 11	450 0 0	416 12 8	40 3 1	15 11 0	...	936 15 8
IX.—Miscellaneous —									
(a) Refunds	...	...	...	...	...	1 0 0	...	18 5 0	19 5 0
(b) Law charges	5 8 0	...	...	...	2 12 0	7 0 0	10 0 0	...	25 4 0
(c) Other charges	2 7 6	3 2 6	109 5 6	393 1 2	104 1 11	109 1 7	29 10 6	45 0 0	801 14 2
TOTAL, A.—CONSERVANCY AND WORKS ..	473 1 0	1,926 12 10	20,453 10 5	43,122 11 1	34,692 13 8	1,688 2 9	22,172 14 2	4,928 0 4	1,29,358 2 3

CALCUTTA:
The 30th May, 1888.

JAS TAYLOR,
Assistant Comptroller-General (Forests.)

ANNUAL FORM No. 58—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Summary of Expenditure of the different divisions during 1887-88.

Budget heads.	Direction.	Bánda Division.	Ganges Division.	Garhwál Division.	Kumaun Division.	Jhánsi Division.	Naini Tal Division.	Lalitpur Division.	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Brought forward, Total A., Conservancy and Works ...	473 1 0	1,826 12 10	20,453 10 5	43,122 11 1	34,692 13 8	1,688 2 9	22,172 14 2	4,928 0 4	1,29,358 2 3
B.—ESTABLISHMENT.									
I.—Salaries :—									
(*a*) Conservators	12,000 0 0	...	...	...	...	...	...	...	12,000 0 0
(*b*) Superior officers	...	...	10,230 0 0	9,322 9 3	8,745 2 0	...	7,729 9 3	...	36,027 4 6
(*c*) Subordinate forest and depôt establishments ...	68 6 2	1,426 7 5	5,130 13 1	9,558 1 2	7,762 8 10	1,157 0 0	3,777 13 1	1,655 13 0	30,536 14 9
(*d*) Office establishments	3,762 5 4	780 0 0	1,379 8 7	1,895 4 0	2,135 0 7	60 0 0	1,077 1 6	204 0 0	11,293 4 0
(*e*) Deputation and special allowances	...	...	20 0 0	...	...	...	1,800 0 0	...	1,820 0 0
II.—Travelling Allowances :—									
(*a*) Conservators	1,699 12 0	...	...	...	...	...	...	...	1,699 12 0
(*b*) Superior officers	...	...	1,260 9 4	1,739 8 0	1,102 4 0	...	825 0 0	...	4,927 5 4
(*c*) Subordinate forest and depôt establishments ...		208 0 6	690 3 6	1,026 3 0	983 0 10	131 8 0	134 7 8	206 10 8	3,380 1 8
(*d*) Office establishments	182 9 8	99 0 0	406 8 2	490 2 8	425 5 4	...	64 0 0	...	1,667 9 10
III.—Contingencies :—									
(*a*) Stationary	2 7 6	12 0 0	58 15 0	10 0 0	90 9 4	15 8 0	23 4 0	23 5 9	246 2 4
(*b*) Carriage of tents and records ...	436 10 0	...	427 14 10	557 0 4	310 3 8	...	133 12 6	...	1,865 9 4
(*c*) Rents, rates and taxes	76 11 4	...	...	23 0 0	26 0 0	12 0 0	60 0 0	...	197 11 4
(*d*) Pay of police guards	289 0 0	...	...	...	...	...	...	...	289 0 0
(*e*) Official postage	226 6 0	0 1 0	65 7 0	109 5 4	98 7 6	14 13 0	62 12 6	49 1 6	626 5 10
(*f*) Sundries	346 7 11	14 12 8	189 9 5	437 12 9	359 1 8	25 11 0	143 6 1	20 15 9	1,537 13 3
TOTAL B.—ESTABLISHMENTS ...	19,090 11 11	2,540 5 1	19,859 9 8	25,168 14 6	22,037 11 9	1,416 8 0	15,911 2 7	2,159 14 8	1,08,184 14 2
GRAND TOTAL OF EXPENDITURE ...	19,563 12 11	4,367 1 11	40,313 4 1	68,291 9 7	56,730 9 5	3,104 10 9	38,084 0 9	7,087 15 0	2,37,543 0 5

CALCUTTA:
The 30th May, 1888.

JAS. TAYLOR,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 59—[PRESCRIBED].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Dr. *Account Current for the year* 1887-88. Cr.

	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
To CASH BALANCE	...	4,912 10 8	By EXPENDITURE AS PER ANNUAL SUMMARY, FORM No. 58 ...	...	2,37,543 0 5
„ VIII.—Assessed Taxes—			„ Deposits	...	65 0 0
Income Tax—Deductions from salaries	...	1,381 11 3	„ Forest Cash Remittances—Local—		
REVENUE AS PER ANNUAL SUMMARY, FORM No. 58	...	4,60,449 11 6	Remittances to Treasuries	4,04,427 4 10	
„ Service Founds—			Inter-Divisional Transfers	12 7 9	4,04,439 12 7
Civil Fund—Ordinary, Bengal	...	...	„ Advances Recoverable	...	31,037 5 1
„ Additional, Bengal	...	...	„ Suspense	...	...
Military Fund—Bengal	141 12 0	...	„ Account Current (other Governments)—		
„ „ Madras	...	...	Remittances to the Government of India	...	20,816 2 8
„ Orphan Fund—Bengal	122 8 0	...	„ Inter-Departmental Transfers—		
Uncovenanted Service Family Pension Fund—Bengal,	1,015 3 1	...	Public Works Department other Branches	128 8 3	...
General Family Pension Fund	...	...	Military Department, Bengal	35,987 2 10	...
Hindu Family Annuity Fund	...	1,279 7 1	Civil Department	...	...
„ DEPOSITS	...	30 0 0	Rewards for proficiency in Oriental languages ...	180 0 0	36,295 11 1
„ Forest Cash Remittances—Local—			„ Cash Balance	...	9,952 4 4
Forest cheques drawn	2,45,005 8 9	...			
Inter-Divisional Transfers	12 7 9	2,45,018 0 6			
„ Advances recoverable	...	23,035 12 2			
„ Suspense	...	...			
„ Account Current (other Governments)—					
Remittances from Government of India	...	2,453 8 6			
„ Inter-Departmental Transfers—					
Public Works Department	...	...			
Military Department, Bengal	291 4 0	...			
Civil Department—					
Jail	...	...			
Mathematical Instrument Department ...	139 6 0	...			
Miscellaneous	...	...			
Survey of India	1,157 12 6	1,588 6 6			
TOTAL ...	...	7,40,149 4 2	TOTAL ...	...	7,40,149 4 2

CALCUTTA:
The 30th May, 1888.

JAS. TAYLOR,
Assistant Comptroller-General, Forests.

ANNUAL FORM No 60—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Revenue received and outstandings on account of Revenue during 1887-88.

Division.	Particulars	Outstandings at commencement of year	Value of sales and other revenue during year	Total.	Amount realized during year	Balance due to the Department at end of year	Remarks
		Rs a. p.	Rs a. p.	Rs. a. p.	Rs. a. p	Rs a. p.	
Direction	Timber, poles, grazing dues and minor produce,						
Naini tal ..	Ditto ditto		51,155 0 9	51,155 0 9	51,155 0 9	...	
Kumaun .	Ditto ditto ..		1,22,084 8 2	1,22,084 8 2	1,15,469 8 2	6,615 0 0	
Garhwal	Ditto ditto .	..	1,49,393 3 5	1,49,393 3 5	1,49,393 3 5	.	
Ganges ...	Ditto ditto .		1,20,029 4 3	1,20,029 4 3	1,20,029 4 3	.	
Jhansi ..	Ditto ditto		7,236 2 8	7,236 2 8	7,236 2 8		
Lalitpur .	Ditto ditto ..		11,545 12 8	11,545 12 8	11 545 12 8	.	
Banda ..	Ditto ditto	576 0 3	(a) 5,340 14 10	5,916 15 1	5,620 11 7	296 3 6	(a) Excluding Rs 98-6-5 written off under Local Government sanction No $\frac{2719}{650-2}$, dated 1st August, 1887
	Total	576 0 3	4,66,784 14 9	4,67,360 15 0	4,60,449 11 6	(b) 6,911 3 6	(b) From Rohilkhand and Kumaun Railway, Rs 6,615 0 0 From private purchasers, 296 3 6 Total 6,911 3 6

Dated Naini Tal
The 9th July, 1888.

C BAGSHAWE,
Offg. Conservator of Forests, Central Circle.

ANNUAL FORM No. 61—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Outstandings and Liabilities on account of contractors and disbursers for 1887-88

Division.	*Department Debtor*			*Department Creditor*			*Balance due*		Remarks.
	At commencement of year	Recoveries in cash and value of supplies and work done during the year	At close of year	At commencement of year	Payments made during year	At close of year	To Department (outstandings)	By Department (liabilities)	
	Rs a. p	Rs a. p	Rs a p	Rs. a p	Rs a. p	Rs. a. p.	Rs a p.	Rs a. p	
Direction		1,152 12 0	1,152 12 0	70 0 0	1,174 9 4	1,244 9 4	91 13 4	..	
Naini Tal . ..		578 6 8	578 6 8	794 8 2	651 8 4	1,446 0 6	867 9 10		
Kumaun		4,422 15 11	4,422 15 11	1,460 4 4	7,126 0 1	8,586 4 5	4,163 4 6		
Garhwal		5,785 9 4	5,785 9 4	775 14 6	10,608 7 10	11,384 6 4	5,598 13 0		
Ganges .		6,940 0 5	6,940 0 5	196 4 4	7,161 11 2	7,207 15 6	327 15 1		
Jhansi		751 10 10	751 10 10	136 10 1	1,121 9 0	1,248 3 1	496 8 3		
Lalitpur ..		2,182 12 8	2,182 12 8	210 13 8	1,971 15 0	2,182 12 8	.		
Banda		1,221 8 4	1,221 8 4		1,221 8 4	1,221 8 4	...	..	
Total ..	...	23,035 12 2	23,035 12 2	3.544 7 1	31,037 5 1	34,581 12 2	11,546 0 0		

Calcutta
The 30th May, 1888

J TAYLOR,
Assistant Comptroller General (Forests).

ANNUAL FORM No. 62—[Prescribed].

Forest Department, North-Western Provinces and Oudh, Central Circle.

Financial results of the year 1887-88.

Division.	*Timber and other produce removed from the forests by Government agency.*		*Other revenue.*		*Formation, protection and improvement of forests.*	*Total.*		Remarks.
	Receipts	Charges	Receipts	Charges	Charges	Receipts	Charges	
	Rs	Rs.	Rs	Rs.	Rs	Rs.	Rs.	
Direction	*Nil*	Charges proportionately distributed amongst other divisions.						
Naini Tal	36,343	23,693	14,812	6,710	9,690	51,155	40,093	
Kumaun	580	*8,108	1,14,940	28,133	25,490	1,15,470	61,731	*On account of sleepers delivered last year
Garhwál	...	...	1,49,393	51,323	59,969	1,49,393	74,292	
Ganges ...	...	...	1,20,029	25,020	10,308	1,20,029	45,313	
Jhánsi ...	1,180	814	6,076	1,039	1,752	7,236	3,605	
Lalitpur .	5,071	3,022	6,475	1,502	2,464	11,546	7,888	
Bánda ..	644	766	4,977	1,351	2,212	5,621	4,631	
Total ...	43,748	37,295	4,16,702	99,378	1,00,970	4,60,450	2,37,543	

The debits have been made as follows:—

Naini Tal and Lalitpur ...

I.—Timber and other produce.

$$A\left\{I+\frac{VI}{2}+\frac{VII}{3}+\frac{IX}{3}\right\}+\frac{B}{3}+\frac{\text{Direction Division quota of charges.}}{3}$$

II.—Other produce.

$$A\left\{II+III+IV+\frac{V}{2}+\frac{VII}{3}+\frac{IX}{3}\right\}+\frac{B}{3}+\frac{\text{Direction Division quota of charges}}{3}$$

III.—Formation, protection and improvement of forests.

$$A\left\{\frac{VI}{2}+\frac{V}{2}+\frac{VII}{3}+VIII+\frac{IX}{3}\right\}+\frac{B}{3}+\frac{\text{Direction Division quota of charges}}{3}$$

Kumaun, Garhwál and Ganges,

I.—Timber and other produce.

Nil

Save in Kumaun, where the expenditure under A 1 has been taken against the revenue under I (See note + in column of remarks against Kumaun)

II.—Other Revenue.

$$A\left\{II+III+IV+V+\frac{VI}{2}+\frac{VII}{2}+\frac{IX}{2}\right\}+\frac{B}{2}+\frac{\text{Direction Division quota of charges.}}{2}$$

III.—Formation, protection and improvement of forests

$$A\left\{\frac{VI}{2}+\frac{VII}{2}+VIII+\frac{IX}{2}\right\}+\frac{B}{2}+\frac{\text{Direction Division quota of charges}}{2}$$

Jhánsi and Bánda .

I.—Timber and other produce

$$A\left\{I+III+IV+\frac{V}{6}+\frac{VI}{6}+\frac{VII}{6}+\frac{IX}{6}\right\}+\frac{B+\text{Direction Division quota of charges}}{12}$$

II.—Other produce.

$$A\left\{II+\frac{V}{3}+\frac{VI}{3}+\frac{VII}{3}+\frac{IX}{3}\right\}+\frac{5}{12}\text{ of B and Direction Division quota.}$$

III.—Formation, protection and improvement of forests.

$$A\left\{\frac{V}{2}+\frac{VI}{2}+\frac{VII}{2}+VIII+\frac{IX}{2}\right\}+\frac{B\text{ and Direction Division quota}}{2}$$

Dated Naini Tal:
The 9th July, 1888

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle.

APPENDIX A

Forest Department, North-Western Provinces and Oudh, Central Circle.

Statement of trees felled.

Description of trees.	*Jardinage or selection fellings*								*Thinnings.*								*Clearances on boundary-lines, fire lines and roads—not shown in Form No 53.*								Grand Total	
	By Government agency.		By purchasers.		By right-holders and grantees.		Total.		By Government agency		By purchasers		By right-holders and grantees.		Total.		By Government agency.		By purchasers.		By right-holders and grantees.		Total.			
	No.	C ft	No	C.ft.	No.	C. ft.	No.	C ft.	No.	C.ft.	No.	C. ft.	No.	C ft	No.	C. ft	No.	C ft	No	C ft	No	C. ft	No	C. ft.	No.	C. ft.
Sal .	.	.	5,895	165,185	1,132	25,704	7,027	190,889	...	...	933	335	.		933	335	...	..	1,860	4,476	296	300	2,156	4,776	10,116	1,96,000
Sein ..		.	1,779	71,255	34	1,617	1,813	72,872	..	.		...	...	...	...		...		90	100	..	..	90	100	1,903	72,972
Sisham .		...	64	6,255	12	180	76	6,435	...			...	...	...	...	...	...	...	...	..	..	.	...	.	76	6,435
Tún ...		.	39	1,343	13	307	52	1,650		..	..	...	...	...	...	...	...	...		.	.	...	...	...	52	1,650
Haldu ...	..	..	631	29,262	46	1,303	677	30,565		..	...	...	.		...	...	...	...		..	...	...	...	...	677	30,565
Chir ...	1,006	120,194	781	36,326	4,856	49,264	6,643	206,784	...	.		...	.	...	..	...	428	9,560		..	...	..	428	9,560	7,071	2,15,344
Oak .	278	17,373	1,088	47,426	621	1,340	1,987	66,211	..	...	...	..		.	..	..	100	310	902	6,264	...	...	1,002	6,574	2,989	72,785
Teak	148	1,173	42	335		...	190	1,508	...	...	.	...	..		...	...	...	...	.		...	...	...	.	190	1,508
Miscellaneous .	7,863	24,396	16,934	49,795	4,806	21,534	31,599	95,725	...	...	1,488	472	.	...	1,488	472	128	196	784	1,556	2,467	3,709	3,329	5,452	36,416	1,01,649
Total 1857-86	9,201	163,136	20,253	407,254	11,520	101,249	50,064	671,639	..	...	2,421	807		..	2,421	807	656	10,066	3,586	12,396	2,763	4,000	7,005	26,462	59,490	6,98,908
1886-87	20,353	254,912	16,863	303,008	16,012	89,887	53,228	647,807		..	3,317	6,247	247	494	3,564	6,741	1,061	4,647	9,198	18,396	..	...	10,259	23,043	67,051	6,77,591
Difference More	...	.	12,390	104,246		11,362	...	23,832	..		...	.	...	.	.	.		5,419		..	2,763	4,000	...	3,419	.	21,317
Difference Less	11,062	91,776		...	4,492		3,164		.	...	896	5,440	247	494	1,143	5,934	405	..	5,612	6,000	.	...	3,254	...	7,561	.

More 15,153 trees = 1,17,587 cubic feet.
Less 22,714 „ = 96,220 „
Decrease 7,561 „ Increase 21,317

Dated Naini Tal
The 9th July, 1886.

C BAGSHAWE,
Offg Conservator of Forests, Central Circle.

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(24)

APPENDIX B.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Yield in produce.

Description of produce.	1886-87.		1887-88.		Increase.	Decrease.
	Quantity.	Value.	Quantity.	Value.		
		Rs.		Rs.	Rs.	Rs.
1. Timber from green trees felled, cubic feet	539,893	2,46,852	(a) 475,525	1,95,228	...	51,624
2. Ditto from dry trees ,, ,,	333,975	1,00,572	245,925	81,516	...	19,056
3 Firewood and charcoal ,, ,,	1,536,221	55,617	1,426,631	51,451	...	4,166
4. Bamboos including ringals, scores	1,064,703	1,03,506	930,788	98,778	.	9,728
5. Minor produce including drift wood .		53,818		38,442		15,376
6 Grazing dues .	.	21,858	. .	27,756	2,898	...
GRAND TOTAL ..	.	5,35,223		4,38,171	2,898	99,950

		Rs.
Net-decrease	...	97,052
		C. ft.
NOTE (a).—Total outturn of timber from trees felled as per Appendix A.	...	698,908
Ditto ditto as per this Appendix	...	475,525
Difference	...	223,383

The difference is included under items firewood and charcoal.

DATED NAINI TAL.
The 9th July, 1888.

C BAGASHAWE,
Offg. Conservator of Forests, Central Circle.

APPENDIX C

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Statement showing disposal of produce collected by Government agency for 1887-88, *compared with results for* 1886-87.

Description of produce.		Sold locally, i.e., not brought to depôt				Depôt transaction											
						Balance in hand at commencement of year				Brought to depôt.				Total receipts on depôt.			
		1886-87.		1887-88.		1886-87		1887-88.		1886-87		1887-88.		1886-87.		1887-88.	
		Quantity.	Value.	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity.	Value	Quantity	Value.	Quantity	Value
			Rs.		Rs.		Rs		Rs		Rs		Rs.		Rs.		Rs
Timber ..	... C ft.,	22,074	1,612	10,313	821	13,265	11,046	14,340	2,477	62,747	73,368	10,423	492	82,032	84,414	24,763	2,969
Firewood ...	.. Mds.,	40,142	12,656	7,845	367	587	38	486	75	65,179	28,642	79,914	35,145	65,766	28,710	80,400	35,220
Charcoal ...	... »	500	200	500	200	787	345	194	106	112	80	32	13	899	884	226	119
Bamboos ...	... Nos.,	149,187	823	232,543	1,380	166,703	1,148	114,365	1,083	427,209	3,898	491,588	3,460	593,912	5,046	605,943	4,493
Grass ...	.. Bdles.	...	...	22,600	18	...	...	...	...	..	..	..	...	..	..	..	..
Minor produce	.. Nos,	93,826	749	16,215	96	10,580	87	30,001	276	74,950	693	37,960	317	85,530	780	67,961	593
Total	...	...	16,040	..	2,882	...	12,724	..	3,967	...	1,06,640	..	39,427	...	1,19,364		43,394

APPENDIX C

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Statement showing disposal of produce collected by Government agency for 1887-88, *compared with results for* 1886-87—(concluded).

Description of produce.	DEPÔT TRANSACTION—(*concluded*).																						Remarks.
	Removed by purchasers from depôt.				*Converted in depôt.*				*Lost or written off as useless.*				*Used by Department.*				*Total issued from depôt.*				*Balance in hand at close of year.*				
	1886-87.		1887-88.		1886-87.		1887-88.		1886-87.		1887-88.		1886-87.		1887-88.		1886-87.		1887-88.		1886-87.		1887-88.		
	Quantity.	Value.	Quantity	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
		Rs.		Rs.		Rs		Rs.		Rs.		Rs		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.	
Timber C. ft.,	66,638	81,907	15,926	2,303	...	...	...	...	853	28	...	...	6	2	87	11	67,692	81,937	16,013	2,314	14,340	2,477	8,750	655	
Firewood Mds.,	65,177	28,645	80,096	35,171	...	.	...	...	103	20	127	18	...	...	...	...	65,280	28,665	80,223	35,189	486	75	177	31	
Charcoal „	705	278	104	55	...	.	.	...	..	....	17	8	..	...	...	..	705	278	121	63	194	106	105	56	
Bamboos Nos.,	479,555	4,013	404,941	3,043	...	..	.	...	..	...	...	...	2	...	300	2	479,557	4,013	405,241	3,045	114,353	1,033	200,702	1,448	
Grass Bdles.,	...	...	...	..	.	...	...	...	...	..	...	..	...	..	...	...	.	..	...	..	...	...	...	..	
Minor produce Nos.,	55,525	504	63,442	560	...	...	...	...	...	...	266	3	4	..	8	...	55,529	504	63,716	563	30,001	276	4,245	30	
Total ...	...	1,15,347	..	41,132	...	...	...	...	...	48	...	29	...	2	...	13	...	1,15,397	..	41,174	...	2,967	...	2,220	

DATED NAINI TAL }
The 9th July, 1888. }

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle.

APPENDIX E

Statement showing areas closed to grazing in the Central Circle during 1887-88.

Divisions	Total area		Areas closed to grazing or only grazed over by exporters' cattle		Percentage of area closed to area of Division	Remarks
	Acres	Square miles	Acres	Square miles		
Naini Tal — Naini Tal Sub Division,	45,203	71	147	8	7 44	The percentages are calculated on the areas in acres in every case.
Naini Tal — Ramkhet Sub Division,	26,039	40	5,158			
Kumaun	3,42,406	535	39,628	62	11 63	
Garhwál	3,19,763	500	2,06,206	322	64 49	
Ganges	2,23,179	349	31,300	49	14 03	
Jhansi	33,045	38	1,910	3	8 10	
Lalitpur	92,170	144	2,004	3	2 17	
Bánda	75,454	118	*Nil*	..	..	
TOTAL	11,48,279	1,795	2,86,393	447	24 94	

DATED NAINI TAL.
The 9th July, 1888

C BAGSHAWE.
Offg Conservator of Forests, Central Circle.

APPENDIX F

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE.

Abstract record of the growth of sál in specimen plots in the Kumaun Sub-Himálayan Forests.

Year	KUMAUN FOREST DIVISION, PLOTS AND YEAR OF FIRST OBSERVATION								GARHWÁL FOREST DIVISION PLOTS AND YEAR OF FIRST OBSERVATION								GANGES FOREST DIVISION, PLOTS AND YEAR OF FIRST OBSERVATION			
	LAKHWAN MANDI, 1884-85.		UNMAN THAPLA, 1884-85		NORTH KHOYANI, 1884-85.		SALANI, 1887-88.		AMTAROLA, 1884-85.		RANI NAGAL, 1887-88.		DHIKULA, 1887-88		DOMUNDA, 1887-88.		ANDHER MAJHERA, 1888-89.		CHAUKHAMB, 1888-89	
	Thinned area.	*Unthinned area*	*Thinned area.*	*Unthinned area.*	*Thinned area.*	*Unthinned area*	*Thinned area.*	*Unthinned area*	*Thinned area*	*Unthinned area*	*Thinned area.*	*Unthinned area.*	*Thinned area*	*Unthinned area*	*Thinned area*	*Unthinned area*	*Thinned area.*	*Unthinned area.*	*Thinned area*	*Unthinned area*
	Acres and number of trees 2—114	Acres and number of trees. ½—71	Acres and number of trees. 2—117	Acres and number of trees. ½—71	Acres and number of trees. ...	Acres and number of trees. 1—89	Acres and number of trees. .	Acres and number of trees. 1—63	Acres and number of trees. 2—113	Acres and number of trees ½—66	Acres and number of trees. 2—127	Acres and number of trees ½—54	Acres and number of trees. 2—160	Acres and number of trees ½—122	Acres and number of trees 2—158	Acres and number of trees. ½—142	Acres and number of trees.	Acres and number of trees. ...	Acres and number of trees. .	Acres and number of trees. . .
	Increase inches	Increase inches.	Increase inches.	Increase inches.	Increase inches.	Increase inches.	Increase inches.	Increase inches.	Increase inches.	Increase inches.	Increase inches	Increase inches.	Increase inches.	Increase inches	Increase inches	Increase inches	Increase inches.	Increase inches.	Increase inches.	Increase inches.
1884-85	83	42	61	34	..	...	.	. .	·78	37	.	...		...			Sites chosen and indicated to forest-ers but not yet marked out.			
1885-86 ..	1·08	45	71	41		. .	...	...	98	·35	...	...			...					
1886-87 ..	68	28	49	28		..	...	. .	54	·38	.	...	...			...				
1887-88 ...	91	61	·84	61	..	47	...	24	9	20	·90	40	80	50	·60	50				
Average increase in the various plots per tree	87	44	65	41	..	...	...	..	·60	32	...	..	...			...	.		...	..

DATED NAINI TAL
The 9th July, 1888.

C. BAGSHAWE,
Offg Conservator of Forests, Central Circle.

APPENDIX G.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE

List of buildings and wells maintained for Forest Officers, corrected up to 31st March, 1888.

Division and description of buildings	For controlling officers	For subordinates excluding Revenue depôts	Officers' stores and Revenue depôts	Wells	Total	Remarks
Direction Division						
Permanent	...		1		1	
Total ...			1		1	
Naini Tal Division.						
Permanent . .	2	8	5		15	
Semi permanent	2	.			2	
Temporary		1		1..	1	
Total ..	4	9	5	.	18	
Kumaun Division						
Permanent .	6	7	14	3	30	
Total ,	6	7	14	3	30	
Garhwal Division						
Permanent ..	13	6	15	2	35	
Temporary ...		..		2	2	
Total	13	6	15	4	37	
Ganges Division.						
Permanent ..	4	...	5	2	11	
Semi permanent ..			1	...	1	
Temporary		...		1	1	
Total	4		6	3	13	
Jhánsi Division						
Permanent ...	...			1	1	
Semi permanent	1		3	...	4	
Total	1		3	1	5	
Lalitpur Division						
Semi permanent ..	2	24	1		27	
Total .	2	24	1		27	
Banda Division						
Permanent		2		..	2	
Semi permanent	1		2	.	3	
Total ...	1	2	2		5	
GRAND TOTAL	30	48	47	11	136	

DATED NAINI TAL
The 9th July, 1888

C BAGSHAWE.
Offg Conservator of Forests, Central Circle

APPENDIX H

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, CENTRAL CIRCLE

Statement showing yield of bamboos for the seven years 1881-82 to 1887-88

Divisions	1881 82		1882 83		1883 84		1884-85		1885 86		1886 87		1887 88		Total	
	Scores.	Value	Scores.	Value.	Scores	Value	Scores	Value	Scores	Value.	Scores	Value	Scores	Value.	Scores.	Value
		Rs		Rs		Rs.		Rs		Rs		Rs.		Rs		Rs.
Kumaun	220,960	11,291	111,668	9,480	212,949	15,244	193,543	17,520	94,039	8,872	102,740	9,420	86,936	8,081	1,021,890	79,978
Garhwal	402,265	27,034	350,188	23,859	375,432	27,252	202 332	17,197	232 148	22,225	255,866	25,173	185,487	18,396	2,004,218	1,61,136
Ganges / .	545,688	30843	479,253	35,572	471,465	36,862	374,165	28,399	419.903	40,306	654,296	61,550	620,159	61,085	3,564,919	3,00,117
Jhansi .	344	65	367	73	458	96	1,004	232	1,090	275	1,900	638	905	415	6,128	1,794
Lalitpur	76,049	5,359	71,874	5,501	56,987	4,448	39,600	3,450	42,150	4,212	40,308	4 881	36,081	4,397	362,955	32,251
Bínda	2,238	277	1,007	247	1,640	373	1,804	462	2,115	376	3,555	711	2,938	541	15,897	2,987
Total	1,247,544	80,663	1,014,952	74,732	1,118,881	84,275	812,954	67,269	791,505	76,266	1,058,715	1,02,443	931,456	92,915	6 976 007	5,78,563

DATED NAINI TAL
The 9th July, 1888

C BAGSHAWE
Offg Conservator of Forests, Central Circle.

APPENDIX I

Forest Department, North Western Provinces and Oudh, Central Circle

Name of grantee	Description of produce	Naini Tal Division		Kumaun Division		Garhwal Division		Ganges Division		Jhansi Division		Lalitpur Division		Banda Division		Total of each class of produce	
		Amount	Value	Amount	Value	Amount	Value	Amount	Value	Amount	Value	Amount	Value	Amount	Value	Amount	Value
		C ft.	Rs	C. ft.	Rs.	C ft	Rs	C ft.	Rs	C ft	Rs.	C ft.	Rs.	C ft.	Rs	C ft.	Rs.
Right-holders	I —Timber	53,019	6,956	28,628	7,721	2,961	1,078	106	32	90	15	490	100			85,484	15,902
	II —Firewood	17,250	719	8,35,666	8,500	378,855	3,946	128,055	1,334			200	6			1,360,026	14,505
	III —Minor forest produce, such as bamboos, bark, fruit, and limestone		271		10,000		5,000		797	..							16,068
	IV —Grass, grazing, and leaf fodder		6,462		11,000		10·000		3,106			..					30,570
	V —Branches, leaves, and vegetable mould for manure		81														81
	Total	70,269	14,489	864,494	37,221	381,806	20,024	128,161	5,271	90	15	690	106			1,445,510	77,126
Concessions by grant of Local Government	I —Timber			8,854	7,737											8,854	7,737
	II —Firewood			228	19,											228	19
	III —Minor forest produce, such as bamboos, bark, fruit and lime stone			5,000	190	..										5,000	190
	IV —Grass, grazing, and leaf fodder																
	V —Branches, leaves, and vegetable mould for manure																
	Total			14,092	7 946											14,092	7,946
Free grants under executive orders	I —Timber	3,961	243	7,965	4,840	4,666	2,074	12,583	3 238			1,016	150			30,191	10,550
	II —Firewood											3,240	70			3,240	70
	III —Minor forest produce, such as bamboos, bark, fruit, and limestone.								26				1				27
	IV —Grass, grazing and leaf fodder																
	V —Branches, leaves, and vegetable mould for manure																
	Total	3,961	243	7,965	4,840	4,666	2,074	12 583	3,264			4,256	221			33,431	10,647
	Grand Total	74,230	14,737	886,551	50,007	386,472	22,098	140,744	8,535	90	15	4,946	327			1,493,033	95,719

ABSTRACT FOR THE CIRCLE

Description of produce	To right holders		Under concessions granted by Local Government		By free grants under executive orders		Total of each kind of produce	
	Amount	Value.	Amount	Value	Amount	Value.	Amount.	Value.
I —Timber	85,484	15.902	8,854	7,737	30,191	10,550	121,529	34,189
II —Firewood	1,360,026	14,505	228	19	3,240	70	1,363,504	14,594
III —Minor forest produce, such as bamboos, barks, fruit, and limestone		16,068	5,000	190		27	5,000	16,285
IV —Grass grazing, and leaf foddor		30,570				..		30,570
V —Branches, leaves, and vegetable mould for manure		81	..		..	..		81
Grand Total	1,445,510	77,126	14,092	7,946	33,431	10,647	1,493,033	95,719

Dated Naini Tal
The 9th July, 1883

C Bagshawe,
Offg Conservator of Forests, Central Circle

APPENDIX J.

Statement showing revenue for April, May and to 15th June of Kumaun, Garhwal and Ganges Divisions from 1883-84 *to* 1888-89.

Divisions.	Year	Revenue.					Remarks.
		Timber.	Fuel.	Grazing.	Miscellaneous.	Total.	
		Rs.	Rs.	Rs.	Rs.	Rs.	
Kumaun	1883-84	22,429	1,160	478	8,773	32,852	
Garhwál	"	42,210	242	175	10,743	53,370	
Ganges	"	8,920	696	381	29,458	39,454	
Total		73,569	2,100	1,034	48,974	1,25,676	
Kumaun	1884-85	45,767	1,112	120	6,596	53,595	
Garhwál	"	33,046	448	111	8,755	42,360	
Ganges	"	4,618	365	416	24,012	29,412	
Total		83,431	1,925	647	39,363	1,25,367	
Kumaun	1885-86	27,158	671	127	3,007	31,084	
Garhwál	"	23,709	442	130	9,352	33,633	
Ganges	"	19,924	892	1,061	16,016	37,903	
Total		75,791	2,005	1,408	28,375	1,07,570	
Kumaun	1886-87	34,608	910	243	7,093	42,854	
Garhwál	"	46,035	636	127	14,272	61,070	
Ganges	"	27,040	908	749	47,821	70,519	
Total		107,683	2,454	1,119	63,186	1,74,443	
Kumaun	1887-88	18,950	1,197	122	6,771	27,040	
Garhwál	"	29,770	606	75	9,376	39,827	
Ganges	"	28,192	1,023	487	37,999	67,701	
Total		76,912	2,826	684	54,146	1,34,568	
Kumaun	1888-89	21,748	1,702	313	7,269	31,032	
Garhwál	"	39,628	775	165	9,847	50,415	
Ganges	"	24,203	921	789	42,717	68,630	
Total		85,579	3,398	1,267	59,833	1,50,077	

DATED NAINI TAL.
The 9th July, 1888

C. BAGSHAWE,
Offg. Conservator of Forests, Central Circle.

No. 71 L.-G. of 1888-89.

From

Captain E. WOOD,

Conservator of Forests, N.-W. Provinces and Oudh,

Oudh Circle,

To

The SECY. to GOVERNMENT, N.-W. P. and OUDH,

in the Revenue (Forests) Dept.

Dated Naini Tal, the 6th August, 1888.

Sir,

I have the honor to forward the annual progress report on forest administration in the Oudh Circle for 1887-88, and regret the delay, but the season has been a late one and some fire conservancy reports have only lately been received.

I have the honor to be,

Sir,

Your most obedient servant,

E. WOOD, Captain,

Conservator of Forests, Oudh Circle.

OUDH CIRCLE REPORT.

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OUDH CIRCLE.

N.-W. PROVINCES AND OUDH.

ANNUAL PROGRESS REPORT

OF

FOREST ADMINISTRATION

FOR THE YEAR ENDING 31st MARCH, 1883

By Captain E. G. Wood, Conservator of Forests, Oudh Circle

INTRODUCTION.

1 *Conservator's inspection of forests.*—I returned from furlough on the afternoon of the 23rd November, 1887, and took over charge from Mr Whittall on the forenoon of the 24th November, 1887, at Lucknow, and commenced my tour of inspection the same day; visiting the Bahramghát Depôt, ascertaining the stock, finding out the demand, and seeing to the working of the saw-mills. I met Messrs. Rebach, Allan and Campbell, who were waiting for my instructions regarding the works to be carried on during the working season which had already commenced.

After conferring with them I proceeded to Gorakhpur, where I arranged with Mr. Campbell for the working of the forests, as during my absence and a fortnight before my taking over charge Mr Whittall, the Officiating Conservator, had drawn out and submitted to the Inspector-General of Forests and the Local Government a plan of operations for the Gorakhpur forests.

I gave my orders to Mr Campbell to carry on the regular working under the old plan till it was finally decided to adopt Mr Whittall's plan I saw the Collector of the district and Mr. Izat, Agent and Chief Engineer, Bengal and North-West Railway, and arranged with the latter for an experimental supply of fuel to the Railway. When about to leave Gorakhpur I received telegraphic orders from Government to wait on the Inspector-General of Forests I had originally proposed to march from east to west, visiting the forests of Gorakhpur, Gonda, Bahraich, Kheri, Bhira and Pilibhit, but, hearing from the Inspector-General that he would enter Oudh from the north-west after inspecting the Central Circle, I had to give this up and proceed to Bhira and arranged with Mr. Ponsonby for the supply of fuel to the Lucknow market from strip fellings in coppice forests near Gola I inspected the forests of the division with Mr Ponsonby, and then proceeded to Pilibhit to meet the Inspector-General, but as the latter, owing to his finding more work than he expected in the Central Circle, and being delayed by rain, could not come to my circle, I proceeded to Huldwáni, where I met and conferred with him. On leaving Pilibhit I started my camp across country to Dudua, proceeded there *vid* Lucknow, Gola and Bhira My time was greatly taken up in Kheri in rectifying the error in standing stock which Mr. Whittall had entered in his last year's annual report, also in gathering data for correcting the errors which Mr Broun had made in the Kheri working plan (of which I had received proofs from the Press) and of which mention will be made in Chapter II.

I had arranged with Mr Allan for felling in a suitable locality, the locality proposed by Mr Broun being unsuitable for many reasons, and also for felling

a larger amount than proposed by Mr. Whittall, and for the arrangements necessary in taking up a larger area of forest to be protected from fire. I then proceeded to Bahraich where I met Mr. Rebsch, and saw the improvement cuttings of the Nishángarh forests made by Mr. Dapsey in 1885-86, the Sujaoli Depôt, and the work carried on by Mr. Rebsch. I then proceeded to Gorakhpur. On my way there I inspected the Gonda forest office at Mankápur, and gave orders to the Sub-Assistant Conservator of Forests, Bábu Karuna Nidhán Mukarji, regarding the exportation of baib grass (paper material), and gave him instructions regarding the collection of the material at Mankápur. I then again visited the Gorakhpur Division, where having the materials in the divisional office which were not in my own, I drew out my memorandum on Mr. Whittall's note of a five year plan of operations for the Gorakhpur forests, and submitted it to Government. I then returned to Bahramghát, and arrived at Naini Tál on the 15th May, 1888.

2. *Inspection of offices.*—I inspected all the divisional offices except Pilibhít and Bhira, which I can take up when there is less office work, and reported the same to Government and to the Comptroller-General (Forest Branch).

3. *System of working through and with District Officers.*—The system is working well, as the District Officers are taking more interest in forest conservancy and other forest matters. Lieutenant-Colonel Noble, Deputy Commissioner of Gonda, has given great help, and Mr. Campbell is grateful to Mr. Roberts, the Collector of Gorakhpur, who is willing to give his aid and support in forest matters. In Pilibhít, too, the Collector, Mr. Holderness, saw matters for himself, and I believe his report to Government will tend to stop some of the damage which has been going on for so long a time. Care, however, will, I think, have now to be taken that in working through Commissioners and Collectors that Government gives sufficient weight to the opinions of the Conservator.

CHAPTER I.

I.—Area and boundaries.

4. *Area of the Circle.*—The area remains the same as in 1886-87.

5. *Area of Divisions.*—The area of divisions are as below —

Divisions.	1886-87.	1887-88.	Difference.
	Sq. miles.	Sq. miles.	
Pilibhít	152	152	
Bhira Sub-Division . .	151	151	
Kheri (trans-Sarda)	203	203	
Bahraich	325	325	
Gonda	155	155	
Gorakhpur	157	157	
Total ...	1,203	1,203	

(a) In Pilibhít all the forests open to right-holders are still held as reserved forests.

(c) In Kheri (trans-Sarda) an exchange of the interior village lands of the Khairigarh estate with some outlying forest land is under contemplation, and the subject will probably be taken up in the ensuing cold weather. The exchange is considered very advisable in the interests of Government in the Forest Department, as the forest blocks will be more compact, easier and more cheaply fire-protected, and the exchange would be in the interests of villagers and the landlord. Whether the really cultivated lands be taken up by the Forest Department or not, certain village lands in which there is little if any cultivation should in my opinion be taken up

or exchanged for outside grazing ground, as these interior private grass lands stand in the way of closing valuable sál forests.

(e) In Gonda there are certain grass lands yet in the hands of the District Officer which I think might with advantage be made over to the Forest Department. Debinagar grant, though under the Deputy Commissioner, has been allowed by him to be managed by the Forest Department as a temporary and tentative arrangement. The sanction of Government has been applied for to the arrangement.

(f) In Gorakhpur the revenue survey is nearly over, but the land settlement is still going on. Though the area remains the same as last year, Mr. Campbell thinks that, when correct maps are received and checked with former revenue survey maps, it will be found that there have been encroachments by neighbouring zamindárs in Rámgarh, Tilkonia and Sanári.

6. *Circle boundaries.*—The progress made in ditching forest boundaries is shown below :—

Division.	Miles new boundary inspection path	Miles new ditching.	Miles broad boundary cleared	Number of posts erected.	Miles Nepal boundary cleared
	M. f.	M f	M. f		M f.
Pilibhít ...	13 7	4 5½	..	221	
Bhira	44 4	6 7	...	..	
Kheri (trans-Sarda)	...	.	.		18 4
Bahraich ..	.	...	10 0		13 4
Gonda ..	.		55 0	1	37 7
Gorakhpur	...	...	.	..	...
Total	57 7½	11 4½	65 0	222	64 7

Divisional Officers have inspected the boundaries of their divisions as much as possible as suggested in G. O. No. $\frac{618F}{500-4}$, of 16th December, 1886, paragraph 5.

7. *Boundaries, Divisional.*—(*a*). In Pilibhít, with a view to facilitate the inspection of boundaries, a two foot inspection path has been started, and 13 miles 7 furlongs have been completed. Much of the old ditching has been destroyed by cattle and will have to be cleared next season. The boundary of the portion of the village of Baibáha made over to the Forest Department will have to be re-demarcated during this rains, as the earthen boundary pillars were not visible this year. (*b*) In Bhira the boundary is in a very fair state. (*c*) In Kheri many pillars are out of repair, the greater part of the ditching requires to be redug. It is not considered advisable to repair the boundaries that may have to be altered; but the repairs of the other portions of the divisional boundaries have been undertaken and will shortly be completed. The Nepal boundary has been cleared on the British side. (*d*) In Bahraich the boundary in parts has become partially choked, some of this has been cleared and the rest is being done; 13½ miles of Nepal boundary line were cleared. (*e*). In Gonda the boundaries have been much improved. In Nawábganj some 15 miles of boundary lines were cleared. In the Tulsipur forests the boundaries have been defined and cleared, and the work of thorough inspection and repairs is being carried on; about 75 miles of boundary has been inspected, and for 40 miles the boundary mounds and ditch have been completed. In three or four places the existing boundary differs from that shown in the kishtwar maps which will be shortly settled in conference with the Deputy Commissioner, the Agent, Balrampur Estate, and the Forest Officer. The usual repairs to the Nepal boundary lines were executed on the British side, but the 30 feet strip on the Nepal side has never been cleared by the Nepal Government; this fact has been reported by the Forest Officer to the Deputy Commissioner, Gonda.

(*f*) In Gorakhpur no new ditching was done.

The Nepal authorities do not keep their neutral belt clear either in Kheri, Bahraich or Gonda.

CHAPTER II.

SURVEYS, WORKING PLANS, AND ANNUAL PLANS OF OPERATIONS.

8. *Valuation Surveys, circle.*—The usual measurements of trees to ascertain the rate of growth of sál were made in Pilibhit, Bhira, Kheri (trans-Sarda) and Bahraich.

9. *Working plans, circle.*—No new working plans have been as yet sanctioned by Government; a five-year plan of operations for the Gorakhpur Division was made by Mr. Whittall, but it has not been approved of by the Local Government, it being considered that Mr. Greig's working plan, which Mr. Whittall knew nothing about, was sufficient for the present.

The Kheri working plan (a subject which took up the whole of chapter II of Mr. Whittall's annual report for 1886-87) I only got proofs of by the middle of February, and the final copy early in June, when I sent a copy to Government and to the Inspector-General. In my No. 112L.G. of 20th December, 1887, I pointed out the clerical error in para. 28 which was rectified in G. O. No. $\frac{78F.}{609\text{-}40}$, of the 8th February, 1888; in my letter at the same time I reported that I thought there was a great error in the calculation. On receiving the proofs I ascertained this to be a fact, the error being about 39 per cent., the *forest* factor for 1st class sound sál trees being 1·722 instead of 1·213 calculated by both Mr. Whittall and Mr. Broun. In my No. 151L G. of 12th March, 1888, I fully explained the cause of the error, which was this: the *forest* factor explained had been obtained by adding together the number of trees on 5,340 acres, plus the trees on 4,585·6 acres, plus the trees on 8,345 acres (linear surveys) and dividing the total by 18,270·6 acres; instead of adding together the trees on 5,340 acres (actuals) plus 4,585·6 acres (actuals) plus 70,074·4 acres, the rest of the forest, (calculated from the actuals on 8,345 acres of linear surveys), and dividing the total by 80,000 (I am using the figures of Mr. Whittall's report). Mr. Broun's whole arrangement of fellings was vitiated by this error, and I am sending to the Inspector-General a revised working plan (now in the Press) with the corrected figures, and some other alterations which I think are advisable. The tables and figures in Mr. Whittall's paras. 20—28, wherever the actuals and representative areas are mixed, are all wrong.

Mr. Whittall also recommended a change in the system at Bahramghát which Government has not approved of.

The proposed changes by the Officiating Conservator, and the unravelling the complications caused by the erroneous calculation of himself and Mr. Brown in the Kheri working plan, have taken up much of my time, and are, I think, very much to be regretted.

10. *Working plans, divisional.*—(*a*) In Pilibhit only 17½ stacks of 500 stacked cubic feet each were cut; no more fuel operations could be done owing to there being no demand for fuel, and there being no suitable forest to work. (*b*) In Bhira some 103,316 stacked cubic feet of poles and fuel were cut, but few sales could be effected, the Lucknow city depôt being full of Bahraich fuel. In (*c*) Kheri (trans-Sarda) in anticipation of the new working plan 3,483 selected sál trees were felled, the number being the less quantity than 2,710 felled last year plus 2,710 (Mr. Broun's proposed yearly number). In (*d*) Bahraich strip fellings were carried on in the Charda forests, and enumeration was carried on over 10,962·46 chains (Gunter's) of strips, and as the strips are 16½ feet broad this represents an area of 274 acres. Out of this area 248 acres consist of tree forest, chiefly of sál coppice poles, and a few

mature sál trees, either unsound or crooked, the remaindor being grass or blanks. The following is the detail of trees counted over the 248 acres :—

	Class A., diameter 1'—6" and over.		Class B, diameter 1' to 1'—6"		Class C., diameter 6" to 1'.		Class D, diameter 3" to 6".		Class E, diameter under 3".	
	Total.	Per acre.	Total.	Per acre.	Total.	Per acre.	Total.	Per acre.	Total.	Per acre.
Sal sound ...	41	0 17	364	1·47	11,956	48 21	32,113	129·49	30,910	124 64
Sál unsound ...	431	1·74	85	0·34	868	3 50	4,139	16·69	8,378	33·78
Miscellaneous sound .	213	0·86	378	1 52	2,158	8 70	5,294	21 35	14,327	57·77
Ditto unsound,	129	0·54	232	0 94	1,328	5·35	3,418	13·76	6,550	26 41

The total number of trees of all descriptions was 497 per acre, there being 72·44 per cent. of sál and 27·56 per cent. of miscellaneous trees. Mr. Robsch located his fellings in a place where, owing to the building of a large buzár, he was able to sell the whole of his produce as it fell for rafters and fuel for brick-burning, clearing some Rs. 40 per acre. The cost of felling has been about Rs. 5 per acre and the price, Rs. 45.

(*e*). In Gonda thinnings have been executed over 200 acres in Ramgarh.

(*f*). In Gorakhpur the usual thinnings were carried on.

11. *Annual plans of operations, circle.*—The annual plan of operations was carried on as usual.

12. *Annual plans of operations, divisional.*—Pilibhít—see working plan for fellings; the other plans of works were carried on as usual.

Bhira, see working plan for fellings; all other works proposed were nearly carried out.

In Kheri the usual works of felling, logging, carting, and rafting, &c., were carried on as proposed in the plan.

In Bahraich strip fellings were carried on in Charda, but the large operations proposed in Nishángára could not be carried out, as the former produce was unsold. Mr. Rebsch thinned out 60 acres experimentally in Nishángára to gain experience. The other plans were carried out as proposed.

In Gonda, with the exception of climber cutting, all other works were carried on as usual.

In Gorakhpur the usual thinnings and other works were carried on as proposed, with the exception of 2 wells and some repairs to boundary ditching which could not be carried out owing to want of supervision, the Sub-Assistant Conservator having been transferred to Bahraich for a part of the year. In addition fuel operations on a small scale have been started in West Lehra, for an experimental contract with the Bengal and North-West Railway.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

(1) Establishment.

13. *Superior staff.*—The charges in the superior establishment during the year were as below :—

Charges.	Officer in charge.	Remarks
Oudh Circle	Mr Whittall, Deputy Conservator (from Government of India)	Officiating as Conservator, from 1st April till the 23rd November, 1887
Ditto	Captain Wood, Conservator ..	In charge from 24th November till end of the year
Pilibhit	Lieutenant-Colonel Campbell, Deputy Conservator (from Central Circle)	From April till the 7th August, 1887
Ditto	Mr Pomonby, Deputy Conservator	Returned from furlough on the 8th August, 1887, in charge till end of the year
Bhira	Same as Pilibhit ..	Same as Pilibhit.
Kheri (trans-Sarda) ...	Mr Allan, Deputy Conservator ...	For the whole year, assisted by Mr Hill from 1st February, 1888
Bahraich	Mr Bebach, Assistant Conservator,	From 1st April to 31st July, and from November to the end of the year, assisted for some 12 months by Mr Raghunath Pathak, Sub-Assistant Conservator
Ditto	Mr Raghunath Pathak, Sub-Assistant Conservator	From 1st August, 188[illegible] to 31st October, 1887
Gonda ..	Mr Karuna Nidhan Mukarji, Sub-Assistant Conservator	For the whole year
Gorakhpur	Mr Campbell, Officiating Deputy Conservator	For the whole year, assisted by Mr Raghunath Pathak, Sub-Assistant Conservator, except from 1st August, 1887, to 31st October, 1887, when the latter was in charge of the Bahraich Division; from 13th June to 31st July, 1887, and from the 1st to 15th November, when he was attached to the Bahraich Division
Bahramghát ..	Mr Kanhaya Lal, Sub-Assistant Conservator	For the whole year.

Mr. Brown, Officiating Deputy Conservator, was in charge of the Kheri working plan till the 15th November; having, however, been absent on 3 months' privilege leave. Mr. Montague-Hill, our first officer from Cooper's Hill, joined in Lucknow on the 23rd November, 1887. I showed him work at Bahramghát and Bhira, and then he was attached to the Kheri Division.

I have in my letter No. 52L-G., of 23rd June, 1888, stated the superior establishment I consider necessary. The sooner I can get 3 or 4 young men of the sub-assistant conservator class the better it will be for the conservancy and revenue of the forests; one is required for Kheri, others for Bhira, Bahraich and the conservator's office. The work is increasing annually, but we have no more officers than we had formerly.

14. *Subordinate staff.*—The establishment is the same as one sanctioned some 12 years ago, and the proposed revised establishment is under consideration, and will, I hope, shortly be submitted to Government. Mr. Whittall sent up the scheme, which has not been approved; it was good on the whole, but Mr. Whittall did not sufficiently justify the figures, and also I think made proposals too far ahead, instead of keeping sufficiently to present requisitions.

15 *Dehra School.*—There are two native apprentice foresters in the School in the 2nd year's course, who will probably pass out this year. They were sent to the School in June, 1887; they however are not of the class of men that I approve. One apprentice forester joined the School on the 1st July, 1888.

(2) GENERAL PROTECTION AND BREACHES OF FOREST LAW.

16 *General protection.*—We are so short-handed that with conservancy, revenue and accounts, officers have no leisure to take in hand a work that is much required, *viz.*, the proposing arrangements for regulating the time of taking out forest produce, the quantity to be taken, and the localities where wants can be supplied with the least damage to the forest; this is a subject requiring much time and labour. At present in many cases the forests are being damaged by villagers not taking the trees pro-

perly, not cutting where the trees are in abundance, but over-cutting in places nearer their houses. On the whole the general protection has been good. In Kheri the fire-protected areas have been extended to 110½ square miles.

17. *Breaches of forest law, circle.*—The results are as below :—

	Prosecutions.			Convictions.	Acquittals.	Cases pending at close of the year.
	Pending from 1886-87.	New cases of 1887-88.	Total.			
1886-87	...	108	108	106	2	
1887-88	..	81	81	74	7	

18. *Breaches of Forest law, divisional.*—There is a decrease in the number of prosecutions from 106 in 1886-87 to 74 in 1887-88. The greater number of cases are in Gonda and Bahraich, where the people will not discontinue the habit of illicit grazing and illicit felling until heavier punishments are inflicted by the Magistrates trying the cases ; lopping is complained of in Pilibhit, Bhira, Bahraich and Gonda.

19. *Compounding offences.*—In 1884-85 there were 25, in 1885-86, 44, last year 122, and in the year under review 98 cases. The cases are chiefly in the Bhira, Pilibhit and Gorakhpur divisions, and for unauthorized fellings or illicit grazing, 19 cases were acquitted for want of sufficient evidence.

The total amount realized from compounding of cases was Rs. 1,083.

(3) FOREST FIRES.

20. *Fire conservancy, circle.*—The year was on the whole favourable, though in some cases the late dampness did not allow of much time to thoroughly isolate some blocks by burning round them, and we had some bad fires early in April when the west wind was blowing. At the end of April and beginning of June we had however some heavy showers which made the grass in the protected areas green, but soon after the weather became very hot and dry; fortunately there were few fires. The forests were not safe from fire till about the 29th June, when rain fell in all divisions.

The following statement shows the result of fire conservancy operations from 1st July, 1887, to 30th June, 1888 :—

Divisions.	Area attempted to be protected.	Failures.	Actually protected.	Cost.	Cost per acre.	Remarks.
	Acres	Acres.	Acres.	Rs.	Rs. a. p.	
Pilibhit ...	43,778	7,500	36,278	2,270	0 0 9·35	These rates show great differences, but it must be remembered that in Kheri the forests are full of grass and luxuriant vegetation, whereas in many parts of Gonda and Bahraich there is no grass to burn, it being grazed down.
Bhira	38,594	18,034	20,560	1,604	0 0 7·98	
Kheri	71,880	330	71,550	5,084	0 1 1·57	
Bahraich ..	157,760	4,618	153,142	2,710	0 0 3·20	
Gonda	99,137	4,220	94,917	333	0 0 0·64	
Gorakhpur ...	76,670	1,540	75,130	1,718	0 0 4·20	
Total, 1887-88 ...	487,819	36,242	451,577	13,719	0 0 5·39	
Total, 1886-87 ...	449,418	66,837	382,611	11,493	0 0 4·91	
Difference ..	+38,401	−30,595	+68,966	+2,226	0 0 0·48	

The area in which protection was attempted was larger by 38,401 acres than in 1886-87, and the cost showed an increase of 0·48 pies, or say ½ pie per acre more than last year. This increase was caused by the extensive preparations for extended fire

conservancy in Kheri (trans-Sarda), which will not be of annual occurrence. About 7 4 per cent. of the protected area was burnt.

21. *Fire conservancy, divisional.*—Pilibhit: attempted 43,778 acres against 43,779 last year; failures 7,500 acres, principally in open *chándars* (scrub sal jangle). A small portion of tree forest, where little damage has been done to the tree-growth, was burnt.

Bhira: attempted 38,591 acres against 34,292 of last year; of the 18,034 acres failures about half was tree forest and the other half *chandar*.

Kheri. attempted 71,880 acres against 42,130 of last year, failures 330 acres. When this happened fortunately the forest was but lightly burnt. The forests have (with such slight exceptions) been successfully protected for four years.

Bahraich: attempted 157,760 acres against 155,520 of former year; failures 4,618. The only extensive fires occurred in the Gabbapur block of the Bhinga sub-division, where 4 213 acres where burnt. There were two small fires in the Chakia forest, one in the Nishángára forest and one in the Pardia block. Of the total area 156 acres were in open and 4,462 acres in closed forests.

Gonda: attempted 99,137 acres, the same as last year; failures 4,462 acres. Most of the fires that took place in the Tulsipur forests are said to have been caused by the spreading of fires from the Nepal forests, whereas the fires in the Nawábganj forests are suspected to have been caused maliciously by the surrounding villagers.

Gorakhpur: attempted 76,670 against 74,590 of last year; failures 1,540 acres in the West Lehra forest, which is surrounded by Mr. Pridgeman's grants, and the assamis do not conform to the forest rules Mr. Campbell states that Mr. Bridgeman's forests are fired yearly; and this year, evidently with a view to extend the fires to the Government reserves, these forests were fired in several places at different times, and the result was that 1,000 acres of Government forest were burnt; no one was caught. There were several other attempts to fire the forests; they were fortunately extinguished in time In West Lehra two men were caught and imprisoned for causing these small fires. Mr Spedding, when Collector of Gorakhpur, arranged that all private owners of forests who wished to fire their forests gave the Forest Officer several days' previous notice, so that he could see that no damage from fire occurred to the Government reserves; this did a great deal to help fire conservancy. I think it would be a good thing if similar arrangements were made by all the District Officers in which Government forests are situated, which could be done in all the other forest divisions under section 78, clause 6, of the Forest Act.

A letter I think might be addressed to the Resident in Nepal to get the Darbar, if possible, to order its subordinates to give similar notice to the forest officers of the several districts marching with the Nepal frontier.

(4) GRAZING AND FENCING.

22. *Grazing.*—The accompanying statement shows the number of cattle grazed, and the areas closed against, and open to, grazing:—

Division	Total area of reserved forests in acres	Area actually closed against grazing	Area open to grazing	Number of cattle grazed	Remarks
Pilibhit	97,045	44,760	52,265	82,220	¾ acre a head
Bhira	90,651	34,074	62,577	16,377	4 acres „
Kheri	1,68,296	70,580	97,416	84,859	1¼ „ „
Bahraich	2,08,021	68,480	1,39,541	1,28,825	1¼ „ „
Gonda	99 137	45,228	53,909	47,475	1¼ „ „
Gorakhpur	1,00,556	76,670	23,886	54,140	Less than ¼ acre a head.
Total	7,60,706	3,39,112	4,30,594	4,29,910	About 1 acre a head

The grazing has again increased in Gorakhpur ; the zamindárs are protecting their grass for thatching, and hence perhaps the increase of grazing in the Government forests. On the other hand there has been less grazing in the Kheri and Bhira forests, partly perhaps from the increased protected area . The grazing in Bhira is poor There are no large grass areas as in Kheri, Bahraich and Gorakhpur, except in the drainage lines, the *chándars*, or open spaces of scrub sál, give poor grazing and the grass in the sál coppice forests is poor. The above figures tend to show that Pilibhit, which is similar to Bhira, is over grazed, though there are splendid grazing grounds outside forest limits ; but forest grazing is free in the larger portions of the forests, whereas in the proper grazing grounds the cattle would have to be paid for The figures are not however so reliable as those where payments are made. It must be remembered however that in Kheri, Bahraich and Gorakhpur the grazing is not all the year round except in the sál forests which are high and not swamped as the natural grazing grounds are in the rains There should be sufficient grazing in the villagers' fallow lands except in rice lands One acre of low grazing ground is equal to several acres in sál forest.

23 *Fencing —Nil*, but Government has to go to great expense in Bahraich to keep the cattle out of the protected forests. The grazing in parts of Bahraich is doing much damage, particularly in the Bhinga forests and near Motipur.

24 *Good results of protecting grass.*—In my report for 1885-86 I remarked on the improvement in grass from protection. I believe the superior thatching grasses are gaining ground, probably from their seeds falling earlier than those of the other species.

(5) NATURAL REPRODUCTION.

25 *Natural reproduction.*—The reproduction in the forests of this circle is very good except in Bhinga, near Motipur, and the outer fringe of Tulsipur The forests of Kheri and Gorakhpur, in which sleeper operations have been carried on, are still further showing the beneficial results of clearing out the crooked, unsound and resin tapped trees that were encumbering the ground ; the blanks are now beginning to be filled up with vigorous and healthy seedlings. The past cold season was favourable to young growth, as there was little frost except cis-Sarda. The young coppice shoots in the Nishángára thinnings of 1885 have made a fresh start, but the effects of the frost of the previous year are visible on the great majority of them, and are marked by crooks on the boles where the old tops were killed off. The improvement fellings were carried too far. They looked very pretty at first, but enough shelter was not left. I have always tried to impress upon my officers the necessity of having enough shelter trees, and I have given my views in the system of strip fellings in which a belt three times the width of the one cut is allowed to remain in poor forests Alternative strips may be left in richer ones, but even then care must be taken to have the protecting belt originally wider than the cut one The seedling growth in the unthinned portions of the Nishángara closed forests is extremely vigorous and in places forms an almost impenetrable thicket. The Bhinga forest as the worst in the matter of reproduction, and the present crop of young trees is being cleared away as fast as possible by the privileged villagers, and in the course of a few years this once splendid sál-producing forest will be turned into a wilderness if no preventive steps are taken to save it from the hands of concessionists. Similarly the Pilibhit forests will be ruined unless the rights of the rightholders are curtailed or rather properly regulated. Sál seeded well, but I am afraid the hot dry weather in June was not favourable to germination.

(6) ARTIFICIAL REPRODUCTION.

26 *Artificial reproduction* —The area of plantations at the end of 1886-87 was 2,447 acres, to which may be added 250 in Gorakhpur, making a total of 2,856 acres This 250 acres is within the large plantation boundary, and is not an outside extension

The sissu plantation at Marha, 17 acres, in the Bhira sub-division, is doing well. Some of the trees are 25 feet high and all seem healthy. The sissu plantation in the Kheri Division is doing well; some of the trees planted in 1881-82 are in some places 20 feet high. The bamboos planted out in 1882 have grown to a good height and are forming themselves into dense clumps. In Gorakhpur the sissu planted out by Shaikh Mohi-ud-din and Mr. Amery was again thinned. Sissu to grow properly must be at least 30 feet apart. The bamboos planted according to Mr. Greig's working plan are getting on well, and have formed into large clumps. The sissu planted by Mr. Campbell at Sukhwi are doing remarkably well, and each year makes a great difference. Older portions of this plantation will have to be thinned, even where the trees are now 15 feet apart. In future planting a space of not less than 30 feet should be given between the plants. In sissu we do not want poles, and thinnings do not pay, but cost money.

(7) YEARLY THINNINGS, REMOVAL OF INFERIOR SPECIES, CUTTING OF CLIMBERS, &c.

27. *Thinnings, Gonda.*—Improvement thinnings over an area of 170 acres (30 being left for belts) were carried out successfully in the Ramgarh block of the Nawábganj forests of the Gonda Division, giving an outturn of 131,657 stacked cubic feet of fuel and poles at a cost of Rs. 914, leaving some 32,700 trees standing on 170 acres; this gives an average of 774 stacked cubic feet (about 200 solid cubic feet) of timber and fuel, and the cost Rs. 5-6 per acre. About 192 poles per acre have been left standing.

In my note on Mr. Brown's working plan I have pointed out that I consider that the removal of the large trees is as conducive (perhaps more so) as protection against fire to the getting up of young growth. I think a consideration of the following figures will be useful. In the richest of our Kheri closed forests the trees are given below, also the trees found by actual counting in Charda Bahraich, see paragraph 10. The classes have had to be altered to those of Kheri:—

Sál.

	I. class, diameter over 2 feet.	II. class, diameter 1-6" to 2'.	III. class, diameter 12" to 1'-6".	IV. class, diameter 6" to 12".	V. class, diameter 3" to 6".	Total.
Kheri Dudwa closed	2½	5	11	21	46	85½
Bahraich Charda coppice ...	2		1½	51	146	200½

And in Nawabganj (Gonda) after felling out the bad stuff we have nearly 200 poles, say mostly 5th class trees, left standing.

To show how necessary the admission of light is to the reproduction of some species I quote the Inspector-General's No. 559 of 16th July, 1888, to the Government of the North-Western Provinces, paragraph 6, penultimate and last sentences. Speaking of spruce and silver fir he says: "I would not advise the expenditure of money on cultural operations when, in my opinion, they cannot succeed without further felling. If it be necessary to prove, in order to warrant its closure, that the forest can be reproduced, 50 to 60 per cent. of the trees should be cut out of a part of it and the sowings will succeed." With sál I have always said "cut over the old stuff and natural seedlings will succeed; keep the ground in shade no seedlings will come up; remove the shade and even with fires some seedlings will come up (sál seed germinates *after* the fires have passed over the ground); prevent fires and a full crop will come up if the ground is not hardened by the trampling of unlimited cattle."

In the Ramgarh forests of the Gorakhpur Division the part (200 acres) of block No. 1. that was weeded (2nd thinnings) last year is doing very well. Mr. Campbell stopped the completion of operations in block No. 1 owing to the private forests being worked in the vicinity. About 60 acres of the West Lehra forests were thinned out to supply fuel to the Bengal and North-West Railway. In the same way about 100 acres in block No. 2 of the Bhári Baisi forests were thinned out; about 100 acres were thinned out in block No. 4 in the Tilkonia forest (included in the 550 of 1886-87, page 5, Captain Wood's Memorandum on Mr. Whittall's note on a five-year plan of operations for the Gorakhpur forests), leaving 50 acres to complete the first thinnings. The forests that have had improvement fellings in them have made marked progress.

28. *Cutting of climbers*—Climber cuttings were done in Bhira and Kheri as below. In Kheri climbers were cut in compartments 59, 60 and 61, some 3,195 acres, at a cost of Rs. 350-15-3, or about Re. 0-1-9 per acre.

In Bhira the work of climber cutting was carried on over on area of 6,209 acres in compartments 1, 2, 4, 9*a*, 16 at a cost of Rs. 536-6-0, or about Re. 0-1-4 per acre, as compared with 769 acres in 1886-87 at a cost of Rs. 91-10-9, or about Re. 0-1-11 per acre.

In Pilibhít I regret that the creepers were not cut in the remaining strips of the strip system as was laid down in the preliminary notes made by me; only a few climbers and thorns were cleared. In other divisions the work was not taken in hand.

(8) EXPERIMENTS AND EXOTIC TREES.

29. The mahogany seedlings which were obtained from the Saháranpur gardens and planted in the Bahrámghát depôt yard are doing well, also the few encalyptus trees in Kheri.

(9) DISTRICT ARBORICULTURE.

29*a*. *District arboriculture.*—Owing to want of funds the year has been a dull one for district arboriculture. In many cases in country roads the people do not want trees on the road-sides as the shade damages their crops, for which damage they get no compensation. It is not wonderful that the trees do not thrive in such places.

(10) COMMUNICATIONS AND BUILDINGS.

30. *Roads.*—During the year 36½ miles of road were completed as below:—

	Miles.	*Furlongs.*
Pilibhít	12	1
Bhira	2	¼
Kheri	4	5 5/8
Bahraich	2	6
Gonda	14	6
Gorakhpur	0	4/8
Total ...	36	4 3/16

An abstract statement of existing roads and lines is given in Appendix V.

The expenditure on roads as compared with last year was as below:—

	1886-87.	1887-88.
Pilibhít	576	1,510
Bhira	616	700
Kheri	8,166	5,999
Bahramghát	200	200
Bahraich	1,810	1,924
Gonda	242	471
Gorakhpur	1,418	243
Total ...	13,028	11,047

Roads will have to be pushed on in Gorakhpur where a regular system was drawn out by myself to bring the mature forests of Nagwa and Sonari into direct communication with the railway station at Pharainda. Mr. Whittall did not quite comprehend how roads influenced the revenue, and was not in favor of them.

All the roads and lines were repaired and put in order, as were also the small bridges on them. The wooden bridge over the Soheli river at Dudua was kept up as usual. The bridge of boats over the Sarda river was maintained as usual; some 22,025 sleepers for the Lucknow-Sitapur and Seraman Railway passed over the bridge, and owing to scarcity in the plains the grain traffic from Nepal was considerable. The receipts and expenditure for the past three years are as below :—

	1885-86.	1886-87	1887-88	*Total*
	Rs	Rs	Rs	Rs
Revenue	3,260	2,971	4,768	10,999
Expenditure	4,032	4,299	3,210	11,541

The expenditure includes the upkeep of the bridge, the safe custody of boats, the compensation paid to the Local Board, which has now been reduced from Rs. 1,000 to Rs 500. Though from a financial point of view the bridge is worked at a slight loss, it greatly facilitates traffic not only from the Government forests but from Nepal both in forest produce and grain. The above revenue does not include anything for the 22,025 sleepers which crossed the bridge this year nor for the many thousands which crossed in former years. When the railway is completed to Seraman I expect the whole traffic will be drawn to this ferry. But as we propose to work certain of our forests more intensely we shall have to keep our important roads and bridges in excellent order, especially in the Kheri and Bhira Divisions, as a good road from Dudua to Seramau will be necessarily required. Unless we start tramways we will not be able to work our forests as intensely as proposed in my revised working plan of the forests Kheri trans-Sarda.

31. *Buildings*.—During the year the work on buildings was done as below.

In Pilibhit the third class rest-house at Chorghatta was abandoned as unhealthy, and another one erected at Bargad chauki at a total cost of Rs 650. In Bhira some out-houses were built. In Kheri the tile-roofed house at Shitábághát, to replace the double-storied rest-house, the site of which was washed away by the Koriala river, has been finished at a cost of Rs 1,000 and a portion of the material saved from the old house when dismantled. The second class rest-house commenced at Changa nála in 1886 has been completed at a cost of Rs. 2,675. In Gonda the materials for constructing two second-class rest-houses are being collected. All the other existing houses and buildings in all the divisions of this circle have been put in thorough repair. The expenditure on buildings in this and past year was as below :—

	1886-87	1887-88
	Rs	Rs
Buildings	12,102	10,618

32. *Wells*.—In Pilibhit one 5′ diameter well was made at Mohofe, 33′ total cylinder, at a cost of Rs 400, one curb or *putthy* well was made on the road-side at Binkati. In Kheri the well on the Sisauta Phanta-Phulwaria line, commenced in 1885, was finished at a cost of Rs 281. In Bahraich a new well was built at pillar No. 72 in the Nishangára forests, but was not quite complete by the close of the year. In Gonda two wells at Nand Mahra and Janakpur on the sites of the proposed new rest-houses were commenced. In Gorakhpur the Nichlaul rest-house well has not been completed as yet, but is expected to be finished in 1888-89. All the existing wells in the circle were cleared out and repaired. The total cost on wells in the circle was as below :—

			Rs
1886-87			3,213
1887-88	...	..	1,507

33. *Rivers*.—In Kheri the Soheli river was cleared of snags as usual from Salukapur to Shitábághát, about 40 miles, at a cost of Rs 348, making it easy for rafting logs. In Gorakhpur the control of the great Gandak in the Gorakhpur (North-Western Provinces) and Champáran (Bengal) districts was made over to the Forest Department. During the year Rs. 7,920 were realized from sale of drift pro-

duce at an expenditure of Rs. 3,279 ; half the surplus is credited to the Oudh Circle, the rest to Bengal. The Rohin and Pias rivers will have to be cleared out again next working season and a bank will have to be made during the rains to keep the Rohin from running into the Tingrahua nála, as it is of the utmost importance to use this river for rafting purposes. The control of the Rapti river in the Gorakhpur district was made over to this Department, and the drift on this river gave a revenue of Rs. 672 against an expenditure of Rs. 297. The control of the Rapti river has been extended to the Basti district for the ensuing year.

CHAPTER IV.

YIELD AND WORKING.

34. The detailed yield is given in Appendices I and II, as well as in forms 54 and 55.

(1) DEPARTMENTAL OPERATIONS.

35. *Selection fellings of regular working plans, circle.*—The only regular selection fellings took place in the Kheri Division in compartments * as follows :—

* Compartments numbered from Mr. Broun's working plan.

Compartment No.	Sál.	Asáina.
46	155	50
50	666	127
51	40	86
52	161	129
53	1,407	566
55	184	
56	294	...
57	140	...
58	427	258
Total . .	3,483	1,218

36. *Selection fellings, divisional.*—(*c*) Kheri regular selection fellings were 3,483 sál and 1,218 asáina trees, yielding 6,872 logs and pieces, containing 346,658 cubic feet of timber. Of the above logs and those of former season's fellings 5,120, logs were carted to depôts, 5,375 logs were rafted from depôt to Shitába, and 3,144 logs were rafted from Shitába to Bahramghát. No more sleepers have been sawn since March, 1886, when the total outturn of sleepers stood at 921,170. Of these some 759,373 had been exported on the 31st March, 1887 ; since then the following deliveries have been made :—

53,416 sleepers to Lucknow-Sitapur and Seraman Railway.
5,738 „ transferred to Bahramghát.
13,740 „ „ to Bahraich.

72,894, leaving a balance of 80,115 on hand in Kheri.

There were no sleepers sawn in other divisions.

37. *Improvement fellings.*—(*a*) In Pilibhít an experimental improvement felling in the Mahofe Bojhi was done by departmental agency, yielding 6,000 cubic feet of stacked fuel which fetched Rs. 144. (*b*) In Bhira the works consisted of (1) the fuel operations (strip fellings) in the Barauncha forests near Gola, and (2) the clearing of the railway line in the Kharainta forest near Daniapur, giving a total yield of 112,105 stacked cubic feet of fuel and poles. (*d*) In Bahraich the work was undertaken on the strip system in the Charda forests, and about 350 acres of forest were cut over in strips 16½ feet broad (49½ remaining). The crop consisted chiefly of sál coppice poles of bad growth, yielding 497 trees per acre. The whole outturn has been sold, owing to the building of a large bazár in the vicinity, to one purchaser at the rate of Rs. 45 per acre, and the cost of cutting (including surveys, &c.) came to Rs. 5, so that

the net profit on these fellings will be Rs. 40 per acre. Some 60 acres of improvement fellings were made in the Nishángára forests. The removals here were to bear entirely on badly-grown and inferior trees for which there is no demand at present. No large operations were therefore undertaken. The operations were experimental, about half the quantity being taken out as compared with Mr. Dansey's thinnings. The object is to see how the young growth is protected from frost. (*e*) In Gonda the improvement fellings over 200 (170 tree forest and 30 belt left) acres of sál forests in Rámgarh block "A" were made; the total outturn has been 7,273 poles—3,657 cubic feet and firewood 320 stacks = 128,000 stacked cubic feet, at a total cost of Rs. 914-9-6 against an expected income of some Rs. 2,000. (*f*) In Gorakhpur no weedings were done in Rámgarh, for want of demand for the produce; but in Tilkonia there were fellings done on a small area, about 100 acres, yielding some 2,000 ballas and 13,820 maunds of fuel. In Bhari Baisi and West Lehra the fellings were carried out, the former yielding some 5,092 ballas and 3,000 maunds of firewood, and the latter some 5,318 poles and 18,900 maunds of fuel, aggregating in all 12,410 poles and 35,720 maunds of fuel.

38. *Outturn of timber, firewood, and other minor produce.*—Outturn of timber firewood and other minor produce is given in forms No. 54 and 55, an abstract of which is shown below :—

(*a*) *Timber and firewood.*

Description.	Selection fellings.		Thinnings.		Clearances.		Total.	
	1886-87.	1887-88.	1886-87.	1887-88.	1886-87.	1887-88.	1886-87.	1887-88.
Timber cubic feet,	209,238	346,658	131,797	23,208	282,940	185,132	623,975	554,998
Poles and saplings ,,	...	...	5,753	11,887	2,901,557	2,611,035	2,907,310	2,622,922
Drift ,,	...	...	...	...	5,375	63,070	5,375	63,070
Firewood and charcoal ,,	...	..	167,288	277,859	2,093,630	2,295,910	2,260,918	2,573,769
Total timber and firewood	209,238	346,658	304,838	312,954	5,283,502	5,155,147	5,797,578	5,814,759

and the removal of the above outturn by the different agencies are given below :—

Description.	Govt. agency.		Purchasers.		Right holders, free grantees.		Total.	
	1886-87.	1887-88.	1886-87.	1887-88.	1886-87.	1887-88.	1886-87.	1887-88.
Timber cubic feet,	342,703	355,944	201,873	146,886	79,340	52,168	623,975	554,998
Poles and saplings ,,	13,241	13,566	176,932	260,027	2,718,137	2,348,729	2,907,310	2,622,922
Drift ,,	2,448	42,702	1,927	20,368	...	...	5,375	63,070
Firewood and charcoal ,,	167,288	286,099	978,796	1,191,487	1,114,834	1,096,243	2,260,918	2,573,769
Total timber and firewood	525,739	698,251	1,358,528	1,619,368	3,912,311	3,497,140	5,797,578	5,814,759

37. *Error in calculations.*—In working out the details of *solid cubic feet* of timber given to privileged villagers in the Kheri working plan, the quantities of which seemed to me excessive, I found that a serious error in calculation has gradually got into the returns. Before 1883 I had endeavoured to ascertain the

quantity of material given away, and for this purpose the number of cart-loads, bullock-loads, and head-loads was recorded ; when the prescribed forms had to be filled in with the number of trees and cubic feet I calculated the number of poles and cubic feet from the cart-loads, and the quantity of fuel in maunds from the cart-loads, bullock-loads, and head-loads ; the cart-loads, if I remember rightly, I calculated at 10 maunds (the *solid cubic foot of green wood* being about 1 maund) ; the fuel I calculated in maunds, and the same weight, 10 maunds for a 2-bullock cart.

In Appendix E of progress report for 1883-84 and paragraphs 59 and 42, I estimated the number of cubic feet at about 5 lakhs for the Circle, which was probably within the mark, as correct returns could not be got for Pilibhít, where we were not allowed to issue permits from which we get our data. Our records were at first more faulty than they are now, so that, probably owing to better recording, the quantities have shown an increase ; but even this would not account for the sudden rise. It now appears that in my absence, in 1884-85, Mr. Ponsonby, finding that his *stacked fuel* weighed 1 *maund* for every 3½ *stacked cubic feet* (a stack of $5' \times 7' \times 20' = 350$ stacked cubic feet being equal to 100 maunds), ordered Divisional Officers to calculate 3½ *cubic feet* to the maund, forgetting that our logs were calculated as *solid* cubic feet and that poles should also have been shown as *solid cubic feet ;* and even if the fuel had been entered at 3½ *stacked cubic feet* to the maund, the stacked cubic feet should have been reduced to *solid cubic feet* in order to get it in a state to be added to the timber and poles.* Being unaware of this fact, I took the Divisional Officer's figures in my report for 1885-86. Mr. Ponsonby further increased the quantity by increasing the 2-bullock cart-load from 10 to 15 maunds, continuing the 3½ *cubic feet of solid timber* to the maund. Mr. Whittall was not certain about the quantity, as may be seen by his paragraph 101 of last year's report, and I did not discover the certainty of the error till it was too late to rectify it in this year's report ; but I will endeavour before next year's report to work back for the last five or six years, after having ascertained the exact data gone on in each case, and giving the weight and cubic feet per unit (4-bullock cart, 2-bullock cart, bullock load, and head load) assumed, so that if any error is discovered the exact error can be ascertained afterwards and corrected. As far as I know at present, poles should be calculated at 10 maunds for 2-bullock cart, at one maund *per solid cubic foot* of green poles, *i.e.*, 10 cubic feet solid wood, and not 15 maunds by 3½ solid feet=52½ cubic feet of solid wood ; and fuel should be calculated at 10 maunds per 2-bullock cart to be equal to 20 solid cubic feet of dry timber (boles, sticks, and branches) instead of 52½ solid cubic feet of dry timber. If we apply these assumed data to the quantities given away this year (see last table) instead of 23,48,729 solid cubic feet of poles and saplings and 10,96,243 solid cubic feet of fuel, we have 5,59,211 solid cubic feet of poles and 4,17,616 solid feet of fuel, much more probable quantities than those given in the table.

40. *Selection fellings.*—From the two tables in paragraph 38 it will be seen that there have been 1,37,420 cubic feet of timber more felled during this year than last: under selection fellings this is due to the full figures of Mr. Broun's and Mr. Whittall's proposed Kheri working plan being worked up to, as well as arrears for last year. This I was safe in doing, as these officers' figures were too low, and I considered it advisable, as next cold weather there will be a short stock of Nepal logs in the market and the carting allowed the carters to clear their accounts.

41. *Thinnings.*—In Bhira, Bahraich and Gonda the increase has been on account of improvement fellings and sale of green standing trees in Bahraich.

42. *Clearances.*—There is a decrease of 1,28,355 cubic feet, there being less demand in Gorakhpur, Kheri and Pilibhít for poles, saplings and other timber, and

Note.—Say 3½ stacked cubic feet and 2 solid cubic feet of thoroughly dry fuel to the maund.

there was less timber removed by right-holders in the Pilibhit Division than was shown in last year's return.

43. (*b*) *Minor produce and grazing removed and utilized.*

Description	By Government agency.				Purchasers.				Right-holders and free grantees				Total			
	1886-87.		1887-88.		1886-87.		1887-88.		1886-87.		1887-88.		1886-87.		1887-88.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Minor produce	...	884	...	6,244	.	54,753	.	47,259	...	15,420		12,200	...	71,057		65,703
Grazing	..	..	.	...		49,229		42,895	.	24,453		24,004		73,682		66,899
Total ...	...	884	...	6,244	.	1,03,982	...	90,154	.	39,873		36,204		1,44,730	..	1,32,602

From the above table it will be seen that there is an increase in removals by Government agency; this was chiefly on account of "baib" grass sold from Bhira to the Lucknow paper-mills and a falling off under both minor produce removed by purchasers and grazing dues—in the former owing to less manufacture of catechu; and there was less grazing partly from a smaller demand and partly on account of the closures in Kheri. Under head "right-holders" last year Mr. Whittall put down some 23,000 odd rupees, but as no accurate statistics are available of the number of cattle of right-holders that grazed during the year, the same sum has been included in the 24,004 of the year. This Rs. 23,000 is, I consider, a great deal too much. The number of cattle in paragraph 22 is, I consider, enormous, *viz.*, 82,229. *The average results from collection of minor forest produce is about 1 anna 4 pies per acre over the whole forest; but if we take only the open forests, wherefrom the minor forest produce is most extracted, the average will be nearly 2 annas per acre.

44. *Total yield of timber, circle.*—The total yield of timber is given in Appendix I, an abstract of which is given below :—

Description.	1886-87.		1887-88.		Difference	
	Number.	Cubic feet.	Number.	Cubic feet.	Number.	Cubic feet.
Selection fellings, *i.e.*, felling of mature trees.	3,879	2,09,238	5,568	3,64,386	+2,136	+1,55,148
Thinnings	13,953	1,37,550	*1,30,594	35,095	+1,16,641	−1,02,455
Clearances	28,95,640	31,80,872	13,40,738	27,78,439	−15,45,902	−4,11,433
Total ...	29,13,472	35,26,660	14,85,900	31,77,920	−14,27,572	−3,58,740
Add drift timber	...	..	.	63,070*	..	63,070
Add firewood	...	22,60,918	...	25,73,769	..	+3,12,851
Grand Total .	29,13,472	57,97,578	14,85,900	58,14,759	−14,27,572	+17,181

* Quantities were first given in stock form, though drift was collected before.

This was utilized as shown in paragraph 38 of this report as well as in Form No. 54. This distributed over the whole area of 7,69,706 acres of the Circle gives a result of 7·55 cubic feet per acre; but actually the tree forest consists of an area of

* These cattle are the cattle of the adjacent villages; they may all graze *part of the year* in the forests.

'only 460,800 acres, therefore the results may be considered about 12·62 cubic feet per acre of *tree* forest.

45. *Bahramghát Depôt.*—The following table gives the comparative results of receipts and execution of indents :—

Year.	Balance at commencement of the year.	Received during the year.	Total	Executed during the year.	Cancelled.	Total	Balance
	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.
1886-87	13,383	33,156	46,539	38,677	3,783	42,060	3,879
1887-88	3,879	22,080	25,959	20,426	22	20,448	*5,511
Difference ...	−9,504	−11,076	−20,580	−18,451	−3,761	−22,212	+1,632

* Since supplied 2,594 cubic feet.

The quantity of indents received during the year was lower than that of 1886-87. There was but little railway work : the chief customers were the Public Works and Jail Departments. Rejected timber, offcuts, and scantlings were sold at the usual periodical auction sales, which brought an average price of from 5 annas 4 pies to 13 annas per cubic foot.

46. *Stock.*—The value of timber and fuel in stock at commencement and close of the year is given in the following table abstracted from Forms Nos. 57 and 57A. :—

Description.	On hand at commencement of the year.		Balance at close of the year.		Difference in value.		Remarks
	Number & quantity.	Value.	Number & quantity.	Value.	In favour of the year.	Against the year.	
		Rs.		Rs.	Rs.	Rs.	
Timber, cubic feet ...	14,24,695	5,75,317	14,02,280	4,04,802			
Firewood, maunds .	18,260	732	1,50,170	26,225			
Minor produce, maunds ..	3,813	1,555	1,953	500			
Stock as per Form No. 57B.,	4,555	1,94,244	64,118	1,88,336			
Total .	..	7,71,848		6,19,963		1,51,085	

47. *Value of timber stock.*—The value of timber stock has been decreased, whereas the value of firewood has been increased owing to there being much fuel in the Lucknow and Bahramghát Depôts remaining unsold at the close of the year from want of demand and the high prices which were fixed by the Officiating Conservator ; arrangements have now been made to sell firewood by periodical auction sales as well as by private sales. The timber stock shows on hand some 14,02,280 cubic feet ; this is composed of stock in forest depôts as well as at sale depôts, as the year's selection fellings in Kheri are brought to a forest depôt by the end of the financial year, but are not rafted down to Bahramghát till the setting in of the rains, when they are tied to boats and removed to Shitábu Depôt, where they have to remain till the floods in the Koriála river subside, *i. e.*, till the beginning of October, when the logs commence to be rafted down to Bahramghát, where they arrive between October and April in different batches : hence there will be always in hand several lakhs of cubic feet of timber both in the forest and sale depôts. I hope to reduce offcuts and sleeper pieces, &c., by periodical sales either at the forest depôts or at Bahramghát. Hitherto, owing to sleeper operations not much was done towards the disposal of offcuts and slabs which represent nearly half the quantity in cubic feet, *viz.*,

648,612 cubic feet, as shown in Forms No. 57 and 57A. Moreover, we have some 131,596 sleepers, containing 195,226 cubic feet; most of these are carefully pitted in sand to preserve them till there is a demand.

48. *Deterioration in value of stock.*—As desired in paragraph 246 of the Forest Department Code, 3rd edition, I have made sufficient allowance for deterioration in the value of stock: hence there is a decrease in the value of live and dead stock shown in Form No. 57B.

49. *Removal of produce by purchasers.*—The removal of produce of all kinds is given in Form Nos. 54 and 55, and a summary is given below comparing results with those of last year:—

	1886-87		1887-88.	
	Quantity	Value	Quantity	Value
	C. ft.	Rs	C. ft.	Rs.
Timber	2,01,873	27,600	1,46,886	18,048
Poles and saplings .	1,75,932	21,974	2,60,627	48,146
Drift timber ...	1,927	4,794	20,368	6,008
Firewood, including charcoal ..	9,78,796	9,463	11,91,487	9,870
Minor produce	...	54,753		47,259
Grazing dues	..	49,229		42,895
Total ...	13,58,528	1,67,813	16,10,368	1,72,216

49*a*. There has been more timber, including the first four items, removed by purchasers than last year, though fewer mature trees were removed from Kheri and Gorakhpur; but more saplings and poles were removed owing to there being a demand for thatching rafters and fuel in the vicinity of Charda (Bahraich) for building a bazár at Rupai Dih, the terminus of a branch of the Bengal-North-West Railway, there was a demand also in Gonda. On the other hand there has been less revenue from minor produce and grazing dues.

50. *Divisional.*—Divisional detail of timber, firewood, minor produce, and grazing dues are given in the following table:—

Divisions.	1886-87										1887-88									
	Timber.		Firewood.		Minor produce.		Grazing		Total.		Timber.		Firewood.		Minor produce.		Grazing		Total.	
	Quantity.	Value.	Quantity	Value.	Quantity	Value.	Quantity	Value.	Quantity	Value.	Quantity.	Value	Quantity	Value	Quantity	Value.	Quantity	Value.	Quantity	Value
	C ft	Rs.	C ft.	Rs.		Rs.		Rs.	C. ft.	Rs.	C. ft.	Rs.	C. ft.	Rs.		Rs.		Rs.	C. ft.	Rs.
Pilibhit	43,737	2,000	2,56,340	2,502	...	2,015	...	1,559	3,03,067	8,079	33,290	1,908	1,52,385	1,333	.	2,311	...	1,004	1,84,675	6,456
Bhira . .	12,471	614	50,070	396	..	1,159	...	3,385	62,541	5,554	16,382	363	2,24,531	420	...	777	.	2,289	2,40,913	3,849
Kheri	21,630	7,241	34,363	495	.	13,592	..	14,739	55,992	36,007	20,356	3,892	46,444	372	...	10,311	...	10,773	66,800	25,348
Balrampghát ...	..	...	..	...	...	...	...	.	...	...	17,335	4,714	...	...	...	..	...	..	17,335	4,714
Bahraich .	1,68,244	27,914	1,71,265	1,333	.	10,309	..	14,333	3,39,509	54,289	2,21,340	46,412	2,70,629	1,927	..	8,856	..	13,948	4,92,469	71,188
Gonda .	1,13,878	8,732	3,14,838	1,899	...	7,680	..	6,901	4,34,716	25,162	96,309	10,393	4,47,493	1,656	...	7,979	..	6,494	5,43,802	26,312
Gorakhpur	14,782	6,867	1,51,921	3,896		20,145	...	7,812	1,66,703	38,722	23,769	4,610	50,065	4,162	.	17,225	...	8,483	73,834	34,399
Total .	3,79,732	53,368	9,78,796	10,463	..	54,753	.	49,229	13,58,528	1,67,813	4,27,981	72,192	11,91,487	9,870		47,259	.	42,896	16,19,368	1,72,216

51. *Free grants of forest produce.*—The detail of free grants of forest produce is given in Forms Nos. 54 and 55 and Appendix 4, an abstract of which is given below :—

Description.	1886-87.		1887-88.	
	Quantity.	Value.	Quantity.	Value.
	C. feet.	Rs.	C. feet.	Rs.
Timber	70,340	65,300	52,168	85,063
Poles and saplings	27,18,137		23,48,739	
Firewood and charcoal	11,14,334	7,177	10,96,243	5,886
Minor produce	...	15,490	. .	12,200
Grazing dues	...	24,453	..	1,400
				28,000
Total ...	39,12,811	1,12,350	34,97,140	1,27,153

From the above it will be seen that there were over two lakhs of cubic feet less removed by right-holders and free grantees.

52. *Rights.*—With the exception of Pilibhit, there are no rights in any of the Divisions of the Oudh Circle.

53. *Protected and district forests.*—There are no protected or district forests in the Oudh Circle.

54. *Catechu.*—The amount realized from the manufacture of catechu, at the rate of 12 annas a pot, is Rs. 8,877-12-0 in the Kheri Division. Khair trees are now comparatively scarce and a great many manufacturers have gone over to Nepal this season. The catechu manufacture in Bahraich was, however, restricted and the loss from this source amounted to Rs. 2,500.

55. *Extract of sál bark.*—No extract was prepared this year, but some specimens were given away to people interested in tanning materials.

56. *Imports and exports.*—Sál timber in thousands of cubic feet have been imported into the province, but not in such quantities as was done in former years from Nepal, owing partly to the exhaustion of the forests in the vicinity of sale depôts and partly to certain frauds discovered during the year.

57. *Total yield in produce.*—The total yield in produce is given in Appendix 2, and an abstract of it is as below :—

Description.	1886-87.		1887-88.		More.		Less.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	C. feet.	Rs.	C. feet.	Rs.	C. feet.	Rs.	C. feet	Rs
Timber, cubic feet, ...	35,36,660	5,20,000	32,40,900	5,05,063	...	...	2,95,670	14,937
Firewood and charcoal.	22,00,918	22,000	25,73,769	40,000	3,12,851	18,000	...	
Minor produce	...	71,457	...	65,700	..	...	. .	5,754
Grazing dues ..	...	73,682	. .	66,899	...	...	...	6,783
Total ...	57,97,578	6,87,139	58,14,759	6,77,665	17,181	..	...	9,474

There is a decrease in timber of some Rs. 14,937 and increase in fuel of some Rs. 18,000 ; on the other hand there is a falling off under minor produce and grazing to some Rs. 12,537. On the whole, there is a decrease of Rs. 9,474 compared with total yield for last year.

To show the extent to which free grants and grazing rights enter into the above return of yield and value, the following table separates the yield and value of the produce that will be, or has been, disposed of at market rates from the assumed yield and value of the produce enjoyed without payment by right-holders and privileged villagers. The latter is shown in block type :—

Description.	Cubic feet.	Rupees
Timber ...	8,40,003	4,20,000
	24,00,897	**85,063**
Firewood ...	14,77 526	84,114
	10,96,243	**5,886**
Grazing and minor produce ...		96,198
		36,204
Free ...	**34,97,140**	**1,27,153**
Other than free grants ..	23,17,019	5,50,512

I only give these figures to compare with those of last year. I consider the block type figures in the "cubic feet" column as much too high.

CHAPTER V.

FINANCIAL RESULTS.

58. *Circle.*—The financial results of the year as compared with those of four previous years are as below .—

	1883 84	1884-85	1885-86	1886-87	1887-88	Total
	Rs	Rs	Rs	Rs	Rs	Rs
Receipts	8,05,538	7,77,021	6,81,712	6,58,675	4,29,870	33,52,826
Expenditure	4,89,214	5,50,758	5,03,197	3,75,120	3,14,439	22,32,728
Surplus	3,16,324	2,26,263	1,78,515	2,83,555	1,15,431	11,20,088

The difference between the actuals and the budget-estimate will be seen in the Budget for 1889-90. The receipts were calculated at Rs. 5,86,583 ; expenditure, Rs. 4,09,667 ; surplus, Rs. 1,76,916 The receipts of this year are less than those of the four previous years : the increase in former years was chiefly due to the sale of sleepers, for which there was little demand in the present one. The normal surplus without sleepers is about 1 lac of rupees. No sleepers were sawn this year : our chief deliveries were to the Lucknow, Sitapur, and Seraman Railway, which had paid in advance for the bulk of them.

59. Receipts and expenditure under the headings of departmental timber operations, other revenue, and formation, &c., of forests are given in the following table :—

Year	I Departmental timber operations			II Other revenue			Formation, protection, and improvements of forests	Net surplus
	Receipts.	Charges	Surplus	Receipts	Charges	Surplus	Charges	
	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
1886 87 ...	4,83,182	2,17,278	2,65,904	1,75,493	71,304	1,04,189	86,538	2,83,555
1887-88	2,37,965	1,64,909	73,056	1,91,906	71,801	1,20,104	78,929	1,15,431
Difference .	—2,45,217	—52,969	—1,92,248	+16,412	+497	+15,915	—8,209	—1,68,124

60. Receipts under the different budget heads are given below :—

Year.	I. Timber and other produce removed from forests by Government agency.	II. Timber and other produce removed from the forests by consumers or purchasers.	III. Confiscated drift and waif wood.	IV. Forests not managed by Government.	V. Miscellaneous.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1886-87	4,81,070	1,62,214	4,794	...	9,987	6,58,074
1887-88	2,32,733	1,75,396	10,709	...	11,032	4,29,870
Difference ..	−2,48,946	+13,182	+5,915	...	+1,045	−2,28,804

The decrease under I, as has already been explained, was from the small amount for sleepers ; a slight increase has been obtained from the other heads ; II—by sale of green sál in Bahraich : III—the Gandak drift was new, and there was slight increase in the Oudh rivers ; V—increased traffic over bridge-of-boats in Kheri.

61. The divisional receipts and expenditure are given below :—

Division.	Receipts. 1886-87.	1887-88	Increase or decrease during the year.	Expenditure. 1886-87.	1887-88.	Increase or decrease during the year.
	Rs.	R.	Rs.	Rs.	Rs	Rs.
Direction	1	...	−1	20,588	19,592	−946
Pilibhít	11,478	7,691	−3,787	30,260	28,963	−1,297
Bhira	7,011	11,435	+4,424	10,136	13,251	+3,115
Kheri	2,25,729	62,754	} 2,18,987	1,76,287	1,35,479	} −48,291
Bahramghát	2,18,006	1,50,233		32,876	25,393	
Bahraich	59,157	1,04,961	+45,804	37,793	43,635	+5,842
Gonda	25,971	27,711	+1,740	13,020	14,937	+1,917
Gorakhpur	1,08,322	59,085	49,237	54,210	33,189	−21,021
Total ...	6,58,675	4,29,870	−22,880	3,75,120	3,14,439	−60,681

62. *Explanation of differences.*—(*a*) In Direction the decrease in expenditure was owing to Mr. Whittall, Officiating Conservator's drawing only Rs. 1,000 a month instead of Rs. 1,500 (Conservator's officiating pay) for part of the year. (*b*) In Pilibhít the falling off in revenue is due to only small thinnings being done, and hence less fuel and timber was sold than last year; in the same way there was less expenditure on works. (*c*) In Bhira the increase in revenue is on account of more baib grass (a paper material) having been sold, and the increase in expenditure is due to more work done under departmental agency in collecting baib grass and conducting improvement fellings (the revenue of which did not come in the year). (*d*) In Kheri the decrease in revenue is mainly due to only a small number of sleepers being paid for this year ; outstandings of 34,000 odd rupees have been cleared off, and the decrease in expenditure to the cessation of sleeper operations. (*e*) In Bahramghát, for the same reasons, the receipts and expenditure are less than those of last year. (*f*) In Bahraich although the surplus during the year was more than three times as large as that of the previous year, it contains a sum of Rs. 13,835 on account of sale of timber at Sujaoli which was cut in 1885-86 ; on the other hand a sum equal to this amount was spent under "timber and firewood" of former years having been removed this year. The excess expenditure is principally under A1*b*, for improvement fellings and carriage of fuel from forest to Sujaoli, and on to

Bahramghát and Lucknow. (g) In Gonda the increase is under sale of timber and firewood as well as minor produce, and the increase in expenditure is under AI, Departmental operations of improvement fellings (the revenue not coming in the year); but principally the increase is under AVIIb, construction of buildings.

In Gorakhpur there is a falling off in revenue owing to there being no demand for timber from Government forests, the private forests being felled all over the district; also there were no sleepers sold this year. Similarly, there is less expenditure under AI, Departmental operations and sleeper operations not undertaken for want of demand.

63. *Circle "Expenditure A" under different heads.*—The expenditure under A—Conservancy and works for this and the past year, is as below :—

Year.	I. Timber and other produce removed from the forests by Government agency.	II. Timber and other produce removed from the forests by consumers or purchasers.	III. Confiscated drift and waif wood.	IV. Rentals of forests not managed by Government.	V. Rent of leased forest.	VI. Live and dead stock.	VII. Communications and buildings.	VIII. Demarcation, improvement, and extension of forests.	IX. Miscellaneous.	Total.
	Rs.	Rs.	Rs.	...	...	Rs.	Rs.	Rs.	Rs.	Rs.
1886-87 ..	1,89,835	12,730	1,968	...	...	8,771	28,223	28,269	1,452	2,71,368
1887-88 ...	1,40,692	13,608	3,582	...	...	7,036	23,232	22,207	3,562	2,13,919
Difference,	—49,143	+878	+1,614	...	...	—1,735	—4,991	—6,062	+2,110	—49,449

Cause of differences:—AI.—No sleeper operations in Kheri and only small departmental works undertaken in Gorakhpur. AII.—Increase, owing to extra supervision on forest produce. AIII.—Increase, owing to the management of the Gandak drift in Gorakhpur having been made over to this Circle; an establishment was entertained for the same. AVI.—Less expenditure, no new elephants being brought for those that died in the previous year. AVII.—Decrease, less works undertaken under this head, roads in Gorakhpur having been stopped. AVIII.—Less money spent on demarcation in Pilibhít, as much on the work of demarcation of the Puranpur compartments had been charged to the past year, and less money was spent under plantations and climber-cutting. AIX.—Increase, owing to refund of some Rs. 1,468 made to certain purchasers in the Bahraich Division who had not legally purchased forest produce, and were implicated in the Bahraich timber frauds.

64. *Circle Expenditure—"B"—Establishments*—For this and past year :—

	I. Salaries.	II. Travelling allowance.	III. Contingencies.	Total.
	Rs.	Rs.	Rs.	Rs.
1886-87	85,242	13,457	5,053	1,03,752
1887-88	81,438	13,452	5,629	1,00,519
Difference	—3,804	—5	+576	—3,233

65. *Causes of difference.*—Last year the pay of superior officers was heavier, as Mr. Ponsonby's furlough allowances were charged against us for the whole year

1886-87. and Lieutenant-Colonel Campbell's had to be paid also; this more than counterbalanced the saving of pay between the Conservator and the Officiating Conservator and other changes. There is an increase under BIII. owing to more travelling, camping, and extra correspondence.

65. *Cash profits of the year.*—The cash profits of the year were as below —

	Rs
Receipts	4,29,870
Expenditure	3,14,439
Cash surplus	1,15,431

66. *Profits of the year with assets.*—The following table shows the estimated profits of the year's operations, taking assets into consideration :—

	Rs
Cash surplus	1,15,431
Add by liabilities cleared off to Bengal and North-Western Railway ...	+1,50,000
Ditto to State Railway . ..	+97,404
Ditto to Indian Midland Railway	+2,852
Total .	3,65,787
Value of timber stock at commencement of the year	5,77,604
Ditto at close of the year .	4,31,527
Difference against the year	—1,46,077
Value of live and dead stock at commencement of the year	1,91,949
Ditto at close of the year	1,88 336
Difference against the year	—3,613
Total	1,52,090
Balance in favour of the year ...	+2,13,097
Deduct outstandings at commencement of the year ...	—13,430
Balance	1,99,658
Add outstandings at close of the year ..	+12,077
Total	2,11,735
Deduct liabilities to Gun carriage Agency, Fatehgarh	2,450
Total profits of the year with assets .	2,09,285

67. *Value of free produce.*—In Forms Nos. 54 and 55 and Appendix 4, as well as in paragraph 51 of this report, the detail of free grants of timber, firewood, minor produce and grazing to the privileged villagers in Bhira, Kheri, Bahraich and Gonda, and to the right-holders in Pilibhit, as also the free grants of timber to district officers of Gonda and Bahraich for district road feeders and other useful purposes, is given. Taking into consideration the low price fixed on building materials, together with the reduced rates of grazing dues to privileged villagers and free grazing to Thárus and others, I estimate about 1½ lakhs of rupees worth of produce was given away this year.

68. *Outstandings.*—The outstandings due to the Circle on account of revenue are Rs. 12,077, most of which are recoverable; but some Rs. 4,529 are mostly old grazing dues standing over from many years past. The list is with the Deputy Commissioner of Kheri, and a portion of it is being realized through the Tahsildár; and I hope shortly to be able to submit a list of irrecoverable amounts, with a view to their being written off to profit and loss.

69. *Accounts of contractors.*—The outstanding from contractors and disbursers are Rs. 41,983, against Rs. 65,976 of last year. In Kheri the sleeper carting operations are nearly over and advances of all kinds are being rapidly cleared off. With the exception of Rs. 888-12-11 considered irrecoverable, all the outstandings will,

it is hoped, be cleared off soon, as Mr. Allan has done well in reducing the outstandings, Rs. 23,603 at the end of the carting season of 1886. The cause of these outstandings was from serious casualties among the carters' cattle.

70. *Liability.*—The liabilities of the Department amount to Rs. 2,949-8-10, due to the Fatehgarh Gun-carriage Agency, for which timber will be supplied in the year 1888-89 and the account cleared.

CHAPTER VI.

GENERAL REMARKS.

71. *Superior staff.*—Mr. Whittall had charge of the Circle for 7 out of the 12 months. Mr. Broun, who had charge of the Working Plan of the Kheri Division till the 15th November, 1887, worked hard, but made a serious error in the working plan, some 39 per cent., which has vitiated his proposals. Lieutenant-Colonel Campbell was relieved by Mr. Ponsonby before the commencement of the working season; the latter has worked well, but has been unfortunate with fire conservancy in Bhira owing to the negligence of the Ranger, who did not carry out Mr. Ponsonby's orders properly. Mr. Allan has worked well as usual; he has continued the supply of sleepers to the railways and has conducted these operations from the beginning with cleverness, tact, and patience, and has saved Government from much loss by his sound knowledge how things should be done and by his practical method of carrying them out His fire conservancy has been largely increased and his success has been great; in this he has been helped by Mr. Hill, who is learning his work, and by Mr. Morton (now a private student in the Dehra Forest School), who was entertained temporarily. Mr. Campbell has again done good work; he has had a most difficult task imposed on him in the Gandak drift. It was not merely taking up new work, but he had in Government interests to work against men whose interests were diametrically opposite to those of Government, and against river thieves who have had matters much in their own hands for many years. Mr. Rebsch has done excellent work; he has done all he could towards clearing up the Nishángára work, and like a practical forester seized the opportunity of making improvement fellings in a place they paid well; but he wants an assistant in his very straggling charge to do justice to his Division.

Mr. Kanhaiya Lal has worked the Depôt well as usual; he has also made great progress with the Lucknow Depôt, which is now, after many years' comparative inaction, doing well. Mr. Karuna Nidhan Mukarji is doing well in Gonda, and the Deputy Commissioner mentions him very favourably. Mr. Raghunath Pathak is doing good work in helping Mr. Campbell, and when in charge of Bahraich should his fitness for a superior charge.

72. *Upper Subordinate Staff.*—Bábu Raghubar Dayal Bájpai has continued the good work he has done for many years, and I hope he will be rewarded with a superior post. The other head-clerks have done their work well.

The Rangers and Foresters have, as a rule, worked well, though some of the latter subordinates had to be dismissed for dishonesty, and one Ranger had to be reduced for not paying sufficient attention to his work of fire conservancy.

73. *Lower Subordinate Staff.*—The lower subordinates have, as a rule, worked well.

74. *Health.*—The health of the establishment has been good.

75. *Accounts.*—The accounts might, I think, be greatly reduced, and the office work connected with them also, leaving officers more time for the protection and improvement of the forests and the making and collection of revenue.

E. WOOD, CAPTAIN,
Conservator of Forests, Oudh Circle.

ANNUAL STATEMENTS.

ANNUAL FORM No 49.

Forest Department, North Western Provinces and Oudh, Oudh Circle.

Area of reserved, protected, and unclassed State forests and waste lands, 1887-88.

Division Range	Civil District or Territory	Name of Forest	Area on 1st April, 1887		Added during the year	Excluded or transferred to other Heads	Area on 1st March, 1888.		No and date of Notification of addition or transfer	Remarks
			Acres	Equivalent in square miles.	Acres	Acres	Acres	Equivalent in square miles.		
		I—Reserved Forests								
Pilibhit Division	Pilibhit District	Pilibhit Division ..	97,045	152	?	..	97,045	152		
Bhira Sub ditto	Kheri ditto	Bhira Sub Division .	96,651	151			96,651	151		
Kheri (Trans-Sarda) ditto	Ditto ditto	Newalkhar Sub-Division Khairigarh ditto	168,296	263		.	168,296	263		
Bahraich ditto	Bahraich ditto	Motipur ditto Bhinga ditto	208 021	325		..	208,021	325		
Gonda ditto	Gonda ditto	Gonda Division	99,137	155	.		99,137	155		
Gorakhpur ditto	Gorakhpur ditto	Gorakhpur Division	100,556	157			100,556	157		
		Total of Reserved Forests	769,706	1,203			769,706	1,203		
		(b) Area of protected Forests, *Nil*								
		(c) Area of unclassed State Forests and waste lands *Nil*								
		Grand Total	769,706	1,203	-		769,706	1,203		

Naini Tal
The 4th August, 1888

E WOOD, Captain,
Conservator of Forests, N W P and Oudh, Oudh Circle

ANNUAL FORM No. 50.—[*Prescribed.*]

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Prosecutions for breaches of Forest Rules, during 1887-88.

Forest Division and Civil District.	Cases pending from 1886-87.	NEW CASES OF THE YEAR.					Total cases.	DISPOSED OF DURING THE YEAR.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission, or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
1.—Prosecutions in the Courts of Law.														
Pilibhit Division ...	..	..	1	...	...	1	1	1	3	..	..	1	3	..
Pilibhit District ...														
Bhira Sub-division ...	...	...	5	2	...	7	7	5	5	2	17	7	22	.
Kheri District ...														
Kheri Division ...	...	...	8	...	...	8	8	8	15	.	...	8	15	...
Kheri District ...														
Bahraich Division ...	...	3	20	1	1	24	24	20	38	4	7	24	45	...
Bahraich District ..														
Gonda Division ...	...	...	8	23	...	31	31	30	61	1	2	31	63	...
Gonda District ...														
Gorakhpur Division ...	...	...	6	1	3	10	10	10	20	...	...	10	20	...
Gorakhpur District ...														
Total, 1887-88 ...	...	2	43	32	4	81	81	74	142	7	26	81	168	...
1886-87 ...	...	3	52	46	7	108	108	106	165	2	9	108	174	...
Difference ...	...	—1	—9	—14	—3	—27	—27	—32	—23	+5	+17	—27	—6	...

ANNUAL FORM No. 50—[*Prescribed*].

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Prosecutions for breaches of Forest Rules during 1887-88—(concluded).

Forest Division and Civil District.	Cases pending from 1886-87.	NEW CASES OF THE YEAR.					Total cases	DISPOSED OF DURING THE YEAR.						Cases pending at close of year
		Injury to forest by fire	Unauthorized felling or appropriation of wood and minor forest produce	Grazing without permission, or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons	Cases	Persons	
				II—Cases Compounded under section 67 of the Indian Forest Act										
Pilibhit Division Pilibhit District	1	...	13	2	5	20	21	15	75	6	10	21	85	...
Bhira Sub-Division Kheri District	3		31	20	1	52	55	45	86	10	23	55	109	...
Kheri Division Kheri District	...	...	1		..	1	1	1	1			1	1	...
Bahraich Division Bahraich District	...		4	...		4	4	3	5	1	1	4	6	..
Gonda Division Gonda District	...		4	3	1	8	8	8	16			8	16	...
Gorakhpur Division Gorakhpur District	..		19	7	2	28	28	28	37	2	2	28	39	
Total, 1887-88	4	...	72	32	9	113	117	98	220	19	36	117	256	...
1886-87	..		86	44	16	146	146	132	278	20	70	142	348	4
Grand Total, 1887-88	4	2	115	64	13	194	198	172	362	26	62	198	424	.
1886-87	.	3	138	90	23	254	254	223	438	22	79	250	517	4
Difference ...	+4	—1	—23	—26	—10	—60	—56	—56	—76	+4	—17	—52	—93	—4

Amount of compensation realized from cases compounded by Divisional Forest Officers under section 67 of the Indian Forest Act.

Pilibhit	... ...	Rs 231
Bhira	. ...	„ 504
Kheri	...	„ 4
Bahraich	. ...	„ 104
Gonda	... . .	„ 35
Gorakhpur	... .	„ 205
	Total	Rs 1,083

Dated Naini Tal
The 4th August, 1888.

E. WOOD, Captain,
Conservator of Forests, N W P and Oudh, Oudh Circle.

ANNUAL FORM No. 51—[*Prescribed*].

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Area of Forests tracts protected from fire during the dry season 1886, *to accompany report for* 1887-88.

Division.	Forest Tracts	Year in which protection commenced.	Area actually protected up to 15th June, 1887	During dry season of 1888			Cost during the season.	Remarks
				Area attempted to be protected.	Failures	Actually protected		
						Rs	Rs	
Pilibhit	North Pilibhit							
	East "	1880	16,320	20,588	1,300	19,288	2,270	From 1st July, 1887 to 30th June, 1888
	South east "							
	Mama kote	1881	5,773	10,830	3,000	13,830		
	Dhamara	1886	1,344	6,460	3,200	3,160		
	Total		24,437	43,778	7,500	36,278	2,270	
Bhira	Marha	1887	3,461	15,930	5,066	10,864	1,604	Ditto
	Menziesganj	1885		7,114	4,420	2,694		
	Kharela	1885	3,634	3,844	840	2,994		
	Kaptaura and Menziesganj	1886		7,414	7,414			
	Barsundia	1888		4,302	201	4,008		
	Total		7,095	38,594	18,044	20,560	1,604	
Kheri	Dudua home block	1872	22,200	32,240	10	32,230	2,023	Ditto
	Newal Khar Sub Division,							
	Kasumbha home block	1881	19 840	39,640	320	39,320	2,161	
	Khairigarh Sub Division							
	Total		42,130	71,880	330	71,550	5,084	
Bahraich.	Motipur	1878	62,248	64 900	367	64,533	811	Ditto
	Chakia Charda	1875 to 85	18,012	23,040	38	23,002	745	
	Bhinga	1875 to 76	61,872	69,760	4,213	65,547	1,154	
	Total		143,032	1,57,760	4,618	1,53,142	2,710	
Gonda.	Section I to IV	1880	92,368	99,137	4,220	94,917	333	
	Nawabganj	1880 to 87						
	Total		92,368	99,137	4,220	94,917	333	
Gorakhpur	Ramgarh Tilkonia			6,754	6,754		6,754	1,718	Ditto
	Nagwa			6,900	6,900		6,900	
	Sonari and Jagpur			22,282	22 282	..	24,282	
	Dudhai		1,875	8,674	8,600	.	8,600	
	Bhullampur and Banki			4,154	4,154		4,154	
	East Lohra			7,600	7,600		7,600	
	West Lohra			12,290	12,900	1,540	10,760	
	Bhari Bansi and Bhari Baban			6,000	6,000		6,000	
	Sakhua Sissu plantation		1886		2,080	...	2,080	
	Total			74,554	76,670	1,540	75,130	1,718	
Grand Total		1887-88.		3,82,611	487,819	36,242	4,51,577	13,719	
Ditto		1886-87.		3,45,283	440,418	66,837	3,82,611	11,493	
Difference				+37,328	−38,401	30,595	+68,966	+2,226	

Naini Tal
The 4th August, 1888

E. WOOD, Captain,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle

ANNUAL FORM No. 52—[*Prescribed*].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Area of Plantations, 1887-88.

Division	Name of Plantation	Area in Acres. On 1st April, 1887	Added during the year	Excluded during the year	Area on 31st March, 1888	Receipts. Of the year	Charges. Of the year	Remarks.
Bahraich.	Nishangara	11	...		11	...	...	
	Kain	5	...	...	5	...	...	
	Dundra	2			2		...	
	Ponambyganj ...	1	..		1			
	Total ...	19	.		19			
Gorakhpur.	Ramgarh	303	...	...	303	.	91	
	Sonari ..	200	..		200	...	82	
	Sakhui	1,830	250	...	2,080		2,188	
	East Lehra	40	...		40	...	178	
	Total .	2,373	250	..	2,623	...	2,539	
	GRAND TOTAL ...	2,392	250	..	2,642	...	2,539	
	Cultural Operations							
	Pilibhit ...	...		...	...	...		
	Bhurk ..	17		..	17	...	70	
	Kheri	33	.	...	33	...	249	
	Bahraich	5	...	..	5	..	.	
	Gonda ...			..	..	...	2	
	Total	55		...	55		327	
	GRAND TOTAL ..	2,447	250	...	2,697	..	2,866	

ANNUAL FORM No. 53—[*Prescribed*].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Trees felled or girdled by Government agency during the year 1887-88—(*Selection fellings*).

Division	Trees felled or girdled. Description	Number	Remarks.
Kheri Division	Sál . .	3,483	All these are 1st class trees over 6 feet in girth
	Asaina	1,218	
	Haldu	206	
	Total .	4,907	

NAINI TAL
The 4th August, 1888

E WOOD, CAPTAIN,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 54—[*Prescribed*].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Outturn of Timber and Firewood during the year* 1887-88.

Division.	Description of material	OUTTURN IN CUBIC FEET								Remarks.
		Selection fellings.	Clearances.	Thinnings	Total.	REMOVED BY				
						Government agency	Purchasers.	Free grants	Right-holders.	
	I—RESERVED FOREST									
Pilibhit ...	Sál wood	..	30,131	...	30,131	..	4,553	..	25,578	
	Poles and saplings	.	752,477	.	752,477	..	13,317	...	739,160	
	Miscellaneous wood	...	24,198	...	24,198	...	13,257	...	10,941	
	Manufactured articles .. •	...	753	.	753	...	753		..	
	Drift wood	...	410	...	410	.	410	.	..	
	Total ... Timber	...	807,969	.	807,969		32,290	.	775,679	
	Total ... Firewood	...	478,389	375	478,764	375	152,385	...	326,004	
	Total, Timber and Firewood ...	...	1,286,358	375	1,286,733	375	184,675	.	1,101,683	
Bhira ...	Beams	...	2,103	3,063	5,166	3,063	2,088	15	...	
	Ballis	...	113	2,572	2,685	2,572	113	...	..	
	Poles and uprights	...	8,298	574	8,872	574	548	7,750	. .	
	Pieces	...	746	4,782	5,528	4,782	746	...	...	
	Saplings	...	64,707	...	64,707	...	12,887	51,820	...	
	Total ... Timber	...	75,967	10,991	86,958	10,991	16,382	59,585	...	
	Total ... Firewood	...	340,082	101,114	442,096	101,114	224,531	116,455	..	
	Total, Timber and Firewood ...	...	416,949	112,105	529,054	112,105	240,913	176,036	...	

* Charcoal should be shown by its equivalent in firewood.

ANNUAL FORM No. 54—[*Prescribed*].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Outturn of Timber and Firewood during the year* 1887-88—(concluded).

Division.	Description of material.	OUTTURN IN CUBIC FEET.								Remarks.
		Selection fellings.	Clearances.	Thinnings.	Total.	REMOVED BY				
						Government agency.	Purchasers.	Free grants.	Right-holders.	
	I.—RESERVED FOREST—(*concluded*).									
Kheri ..	Sál logs and pieces	254,875	8,404	..	263,279	254,875	8,359	45	..	
	Miscellaneous articles, sál	..	13,253	...	13,253	...	839	12,414	...	
	" " sissu	...	851		851	...	851	..	..	
	" " khair	...	57	...	57	..	57	..	...	
	Asaina log and pieces	76,960	270	...	77,230	76,960	270	...	..	
	Haldu logs	14,823	...	...	14,823	14,823	...	...	...	
	Sissu pieces	...	169	...	169	...	169	...	...	
	Sál poles	...	3,126	...	3,126	...	3,126	...	...	
	Jamun logs	...	518	..	518	...	518	...	...	
	Miscellaneous poles	..	388,173	...	388,173	..	5,794	382,379	..	
	" props and posts, &c.	..	176,722	...	176,722	...	341	176,381	...	
	Drift collection	...	32	..	32	...	32	..	...	
	Total ... { Timber	346,658	591,575	...	938,233	346,658	20,356	571,219	...	
	{ Firewood	...	518,295	...	518,295	..	46,444	471,851	...	
	Total, Timber and Firewood ...	346,658	1,109,870	.	1,456,528	346,658	66,800	1,043,070	...	
Bahraighát ..	Drift collections	...	17,935	..	17,935	...	17,935	...	...	
	Total ...	..	17,935	...	17,935	...	17,935	...	..	
Bahraich ...	Green sál timber	.	9,998	...	9,998	..	9,998	...	...	
	Dry ditto	...	34,920	...	34,920	..	34,910	10	...	
	Green asaina timber	...	...	15,859	15,859	..	15,859	...	...	
	Dry ditto	...	3,109	..	3,109	...	3,109	..	...	
	Green sissu timber	...	361	...	361	..	361	...	...	
	Dry ditto	...	643	...	643	..	627	16	...	
	Green miscellaneous timber	...	11,022	1,629	12,651	...	12,651	...	...	
	Dry ditto ditto	...	519	...	519	...	519	...	...	
	Sál poles timber	...	82,804	...	82,804	...	78,850	3,954	..	
	Asaina ditto	...	47,165	...	47,165	...	47,165	...	...	
	Sissu ditto	...	50	...	50	..	50	...	...	
	Miscellaneous ditto	...	896,270	...	896,270	...	15,750	880,520	...	
	Drift collections	...	1,991	...	1,991	...	1,991	...	...	
	Total ... { Timber	...	1,088,852	17,488	1,106,340	...	221,840	884,500	...	
	{ Firewood	...	328,221	...	328,221	...	270,629	57,592	...	
	Total, Timber and Firewood ...	...	1,417,073	17,488	1,434,561	.	492,469	942,092	...	

Gonda	Sál timber	..	...	...	...	5,146	3,023	8,169	6,273	1,872	24	...
	Asuna "	...	...	...	...	9,598	...	9,598	181	6,277	3,140	...
	Tikoi "	...	..	..	..	4,740	.	4,740	...	4,740	...	...
	Dhao "	...	...	...	..	104	.	104	.	104	.	...
	Sissu "	...	..	...	...	100	...	100	100	...	.	...
	Mahua "		...		.	103	..	103	...	103	...	...
	Kusum "	..	.		...	415	.	415	.	415	...	...
	Jamun "		..	...	...	4,162	...	4,162	35	4,127	...	...
	M'scellaneous timber			...	...	187,100	634	187,734	2,313	73,671	106,750	...
	Drift "	...		...	..	3,050	...	3,050	3,050	...	..	...
	Total	Timber			..	..	214,518	3,657	218,175	11,952	96,309	109 914	...
		Firewood			...	...	579,958	128,000	707,958	136,180	447,433	124,345	..
	Total, Timber and Firewood				...	..	794,476	131,657	926,133	148,132	543,742	234,259	..
Gorakhpur	Sál timber				.		21,588	2,697	24,285	2,697	21,588	...	...
	Miscellaneous			..	.		1,181	262	1,443	232	1,181	...	...
	Drift timber				...		39,652	.	39,652	39,652	...	.	...
	Total	Timber			..	...	62,421	2,959	65,380	42,611	22,769	...	..
		Firewood			...		50,065	48,370	98,435	48,370	50,065	...	...
	Total, Timber and Firewood				.		112,486	51,329	163,815	90,981	72,834	...	...
	Grand Total	Timber			.	346,658	2,859,237	35,095	3,240,990	412,212	427,881	1,625,218	775,079
		Firewood			..	...	2,295,910	277,859	2,573,769	286,039	1,191,487	77C,239	326,004
	Grand Total of all				...	346,658	5,155,147	312,954	5,814,759	698,251	1,619,368	2,395,457	1,101,083

II—Protective Forest

Nil.

III—Unclassed State Forest and Waste Land

Nil

Abstract of the Circle

Timber and firewood 1887-88	346,658	5,155,147	312,954	5,814,759	698,251	1,619,368	2,395,457	1,101,083
Ditto 1886-87	209,238	5,283,502	304,838	5,797,578	526,739	1,358,528	2,390,115	1,522,196
Difference	+137,420	—128,355	+8,116	+17,181	+171,512	+260,840	—994,658	—420,513

* Charcoal should be shown by its equivalent in firewood.

NAINI TAL
The 4th August, 1888

E WOOD, CAPTAIN,
Conservator of Forests, N.-W P and Oudh, Oudh Circle.

ANNUAL FORM No. 55—[*Prescribed*].

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Outturn of Minor Forest Produce during the year 1887-88.

Division	Description of produce.	Produce removed or utilized. By Government Agency. Quantity.	By Government Agency. Value.	By Purchasers. Quantity.	By Purchasers. Value.	By Free Grants. Quantity.	By Free Grants. Value.	By Right-holders. Quantity.	By Right-holders. Value.	Total. Quantity.	Total. Value.	Remarks.
	I.—Reserved Forests.		Rs.		Rs.		Rs.		Rs.		Rs.	
Pilibhit.	Grazing dues	...	...	...	1,004	...	...	..	23,000	...	24,004	
	Minor produce, Grass	...	...	...	1,702	...	...	...	2,804	...	4,506	
	Ditto, Honey and wax	...	...	...	155	...	...	...	...	...	155	
	Ditto, Hides and horns	...	...	..	30	...	...	...	...	...	36	
	Ditto, Miscellaneous	...	...	...	258	...	...	...	183	...	441	
	Total ... Grazing	..	...	...	1,004	...	..	...	23,000	...	24,004	
	Total ... Minor produce	...	...	...	2,211	...	...	...	2,787	...	4,998	
	Grand Total	...	...	...	3,215	...	...	...	25,787	...	29,002	
Bhira Sub-division.	Grazing dues	...	..	...	2,289	...	...	..	...	...	2,289	
	Minor produce, Grass	...	4,229	...	309	...	680	...	..	...	5,218	
	Ditto, Fruits	...	66	...	73	...	...	...	...	...	139	
	Ditto, Honey and wax	...	...	...	69	..	...	...	...	...	69	
	Ditto, Hides and horns	...	12	...	310	...	...	...	...	..	322	
	Ditto, Miscellaneous	...	...	...	16	...	24	...	...	..	40	
	Total ... Grazing	...	...	...	2,289	...	...	...	...	...	2,289	
	Total ... Minor produce	...	4,307	...	777	..	704	...	...	...	5,788	
	Grand Total	...	4,307	...	3,066	...	704	...	...	...	8,077	
Khiri.	Grazing	...	...	...	10,773	...	1,004	..	...	...	*11,777	Includes Rs. 557, out-standings.
	Minor produce, Grass	...	...	...	56	...	6,086	...	...	...	6,142	
	Ditto, Fruits	...	...	...	315	...	..	...	...	...	315	
	Ditto, Honey and wax	..	...	...	432	...	...	...	...	...	432	
	Ditto, Hides and horns	..	...	..	616	...	...	...	...	...	616	
	Ditto, Khair	..	...	...	8,878	...	...	...	...	...	8,878	
	Ditto, Miscellaneous	...	...	...	14	...	5	..	...	...	19	
	Total ... Grazing	...	...	...	10,773	...	1,004	...	...	...	11,777	
	Total ... Minor produce	...	...	...	10,311	...	6,091	...	...	...	16,402	
	Grand Total	...	..	...	21,084	...	7,095	...	...	...	28,179	
Bahraich.	Grazing dues	...	...	...	13,943	...	..	...	...	...	13,943	
	Minor produce, Grass	...	...	...	2,280	...	1,648	...	...	...	3,928	
	Ditto, Fruits	...	...	...	3,871	...	...	...	...	...	3,871	
	Ditto, Honey and wax	...	..	...	423	...	...	...	...	...	423	
	Ditto, Hides and horns	..	...	...	289	...	...	...	...	...	289	
	Ditto, Khair	..	...	...	1,977	..	...	...	...	...	1,977	
	Ditto, Miscellaneous	...	..	...	16	...	671	...	...	...	687	
	Total .. Grazing	..	...	...	13,943	...	...	...	...	...	13,943	
	Total .. Minor produce	...	...	...	8,856	...	2,319	...	...	...	11,175	
	Grand Total	...	...	...	22,799	...	2,319	...	...	...	25,118	
Gonda.	Grazing dues	...	...	...	6,484	...	...	...	...	...	6,484	
	Grasses	...	1,875	...	4,512	..	223	...	...	...	6,610	
	Fruits and flowers, &c.	...	...	..	933	...	...	...	..	...	933	
	Honey and wax	...	...	..	13	...	...	...	...	...	13	
	Hides	...	...	...	97	..	...	...	...	...	97	
	Khair	...	...	...	1,960	..	...	...	...	...	1,960	
	Miscellaneous	.	...	.	364	...	...	...	...	...	364	
	Confiscated produce	..	62	..	...	...	...	...	..	...	62	
	Elephant fodder	..	...	...	..	...	76	..	...	...	76	
	Total Grazing	...	...	...	6,484	..	...	...	...	...	6,484	
	Total Minor produce	...	1,937	...	7,879	...	299	...	...	...	10,115	
	Grand Total	..	1,937	...	14,363	...	299	...	...	...	16,599	
Gorakhpur.	Grazing dues	...	...	...	8,402	..	...	...	...	...	8,402	
	Grasses	...	...	...	16,346	...	...	.	...	...	16,346	
	Fruits	...	...	...	34	.	..	..	...	...	34	
	Honey and wax	...	..	..	19	...	...	..	...	..	19	
	Leaves	...	...	...	60	..		...	...	...	60	
	Hides	..	...	..	692	...	...	..	...	..	692	
	Miscellaneous	...	..	..	74	...	...	...	...	...	74	
	Total .. Grazing	...	...	..	8,402	..	...	...	...	...	8,402	
	Total .. Minor produce	...	...	...	17,225	...	...	...	...	...	17,225	
	Grand Total	...	...	...	25,627	...	...	...	...	...	25,627	
Grand Total,	Grazing	...	...	..	42,895	...	1,004	...	23,000	...	66,899	
	Minor produce	...	6,244	...	47,259	...	9,413	...	2,787	...	65,703	
Grand Total,	1887-88	...	6,244	..	90,154	...	10,417	...	2,787	...	1,32,602	
	1886-87	...	884	...	1,03,982	...	12,082	...	27,791	...	1,44,739	
Difference	... ...	...	+5,360	...	+13,828	...	−1,665	...	−2,004	...	−12,137	

Naini Tal:
The 4th August, 1888.

E. WOOD, Captain,
Offg. Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

ANNUAL FORM No. 56.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Account of timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally during the year 1887-88.

Particulars			Number or quantity	Cubic feet.	Total of each head: Number or quantity	Total of each head: Cubic feet
BALANCE AT COMMENCEMENT OF THE YEAR						
Sale Depôt						
Bahraighat Depôt.	Sál logs		1,238	61,304		
	Asáina logs	...	230	12,304		
	Sissu „	..	39	923		
	Sál scantlings	...	37,924	37,568		
	Sal sleepers	..	23,299	27,625		
	Asáina scantlings		1,163	585		
	Asáina sleepers					
	Sissu scantlings	...	459	135		
	Sundri „		30	9		
	Dudár „		8	20		
	Dhaman „		27	8		
	Miscellaneous poles		845	1,056		
	Sissu stumps	...	33	281		
	Sál off cuts	... Maunds	7,340 303	...	72,635 303	141,768 Mds
Lucknow Depôt.	Sal scantlings	...	1,869	1,318		
	Sissu „	..	25	13		
	Sál sleepers	...	4,559	6,838		
	Asáina sleepers	..	557	836		
	Sál off cuts		1,458 Mds 1,508	.. ..		
	Asáina		Mds 93		8,408	9,005
	Firewood		Mds 11,946		13,547	Mds
Lakarmandi Depôt	Sál sleepers	...	2,141	3,120	2,397	3,504
	Asáina sleepers	...	256	384		
Forest Depôt						
Kheri Division	Sál logs and pieces	...	6,677	184,474		
	Asáina „ „	...	662	5,100		
	Sissu „ „		3	64		
	Haldu „ „		95	6,958		
	Sál sleepers		55,849	77,725		
	Sal scantlings	... ...	136	648		
	Asáina sleepers		97,388	147,065		
	Sál signal posts		69	1,287		
	Sal slabs	..	264,908	412,308		
	Asáina slabs	...	70,559	231,558		
	Sal poles	...	27	232		
	Large boats	...	60	.		
	Canoes	...	747	..	497,175	1,068,169
Bahraich Division	Sál sleepers	...	330 582	440 774		
	Sál off-cuts	...	2,234	11,228		
	Sál sleepers off cuts		8,082	8,082		
	Sál logs	... ...	456	12,266		
	Sal poles	..	8,841	92,695		
	Miscellaneous poles	...	9	150	20,534	125,085
	Charcoal	... Maunds	14	50	14 Mds	
Gorakhpur Division	Sál ballas	...	68	88		
	Sál pieces	...	3,420	23,080		
	Sál planks	.	1,358	240		
	Sál sleepers	... ...	1,368	1,921		
	Hollow logs chaupata		2	8		
	Karos	...	437	940	6,653	77,102
	Sál off-cuts	. .. Maunds	14,367	50,285	14,367 Mds	
Bhim Sub-Division	Poles ..	..	1,017	7,008		
	Pieces of wood	...	13	117		
	Firewood	... Maunds	1,350	6,450	1,062	13,575
	Minor produce	No Maunds	2 3,815	.. ..	5,165 Mds	
Pilibhit Division	Poles	.. .	1	5		
	Uprights	... ...	14	27		
	Rafters	... ...	195	357		
	Saplings	...	1,031	938	1,241	26,077
	Firewood	... Maunds	4,950	24,750	4,950	Mds
Total, Balance			Number Maunds		610,170 88,340	1,464,915

ANNUAL FORM No. 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Account of Timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally during the year 1887-88 (continued).

Particulars	Number or quantity	Cubic feet	TOTAL OF EACH HEAD. Number or quantity	Cubic feet
RECEIPTS				
1.—From the Forests to Sale Depôts				
Sal logs	2,739	132,783		
Asana ,,	381	17,951		
Haldu ,,	25	1,213		
Sal scantlings	53	106		
Sal sleepers	5,685	8,528		
Asana sleepers	3	4	8,886	162,585
Firewood Maunds	98,848	...	98,848 Mds	
2.—From the forests to Depôts other than Sale Depôts				
Sál logs	7,957	260,914		
Asana ,,	1,044	77,415		
Haldu ,,	206	12,566		
Dhao ,,	15	60		
Sissu ,,	10	109		
Mahua ,,	17	65		
Poles, ballas, beams, rafters, koros,	18,401	29,228		
Sal sleepers	2,347	3,490		
Sal sgoolas	201	452		
Sál harras	1	4		
Sal dharans	74	238		
Dhao sales	250	129		
Jothas	11	6		
Jaman	27	108		
Sál planks	62	31		
Manufactured articles	22	78		
Sál off cuts Number, Maunds,	5,864 / 1,945	10,177		
Asana off-cuts	72	72		
Jaman	500	200		
Firewood Maunds	65,035	...		
Minor forest produce Number / Maunds	16 / 9,237			
Dug-out canoes from hollow logs	100			
Large boat	1	...	40,475	435,928
Drift collection	3,788	31,515	77,117 Mds,	
3.—From the forests and sold locally				
Sál sleepers	2	3		
Sál dharans	62	265		
Sál pieces	3	14		
Sál poles, karos, beams, golas	3,309	2,028		
Mahua pieces	11	65		
Miscellaneous poles	320	1,372		
Asana poles	4	8		
Mango off cuts Maunds	53			
Minor produce Maunds	868			
Drift collections Number	121	7,577	4,415	11,932
,, miscellaneous forest produce	...			
,, Firewood Maunds	30		951 Mds	
4.—By conversion to Depôts				
Haldu logs	37	2,357		
Asana ,,	62	3,224		
Sleepers slabs	2,866	2,866		
Sal scantlings	67,069	65,200		
Asana ,,	2,094	2,118		
Sissu ,,	88	35		
Haldu ,,	33	60		
Sál pieces or botás	1,019	10,479		
Asana ,,	52	732		
Haldu ,,	1	10		
Sissu ,,	17	157		
Sissu off cuts	815	...		
Sál Number, Maunds,	38,152 / 13,659	14,884		
Haldu	7	33		
Asana Number, Maunds,	501 / 141	460	112,984	99,700
Cart wheels	11	119	13,800 Mds	

ANNUAL FORM No. 56.

Forest Department, North-Western Provinces and Oudh, Oudh Circle

Account of Timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally during the year 1887-88—(continued).

Particulars	Number or quantity	Cubic feet	Total of each head: Number or quantity	Total of each head: Cubic feet
(5)—*By transfer*				
Sál scantlings (Lucknow)	18,456	9,618		
Asaina " "	147	121		
Haldu " "	15	5		
Sal sleepers "	233	350		
Sal off cuts ... ... Number	5,540			
Sal off cuts ... ... Maunds	5,209	20,619		
Sál sleepers, Bahraich	13,740			
Sál plough and mongri	3	...		
Inter-transfer sal to asaina	10	520		
Recovered from river sál scantlings	53	105		
Written back sal sleepers	116,479	174,718		
" " asaina "	17,123	25,684		
Difference in estimating cubical Contents of sál logs in Khuri		64,288		
" Sleepers ...		6,852		
" Asaina sleepers	...	9,283		
" Sál poles ...	...	48		
" Sal planks ..	...	99		
Large boats	19			
Canoes	3			
Inter transfer asaina to sál logs	23	...		
Adjustment add sál sleepers	1,507	7,884		
Asaina	5,512	5,287		
Sal slabs	6,380			
Sál poles		138		
Miscellaneous poles ...	200	..		
Sleepers to slabs ...	2,860	2,866		
Sissu off cuts Number	596			
Sissu off cuts Maunds	270			
Firewood .. "	2,188	...	190,868	380,344
Drift collections, Gorakhpur ... Number	1,961	40,863		
Drift collections, Gorakhpur ... Maunds	7,511		15,078	Mds
Total, Receipts Number			357,529	1,079,479
Total, Receipts Maunds ..			201,094	Mds
Grand Total Number		...	967,698	2,544,424
Grand Total Maunds		...	240,040	Mds
DISPOSALS				
(1)—*To purchasers from Sale Depôts*				
Sál logs ..	1,039	44,586		
Asaina logs ...	407	21,084		
Sissu " ...	14	329		
Haldu " ...	4	232		
Sal scantlings	71,557	58,712		
Sal sleepers ...	11,816	17,469		
Asaina " ...	557	836		
Asaina scantlings ..	2,027	2,129		
Sissu scantlings	144	21		
Deodar "	3	3		
Haldu "	1	41		
Poles miscellaneous	412	277		
Sál pieces ...	718	6,819		
Asaina " ...	42	585		
Sissu "	6	48		
Sál off cuts Number	11,348			
Sál off cuts Maunds	6,747	411		
Asaina " Number	89			
Asaina " Maunds	177	27		
Sissu Number	362			
Sissu Maunds	129	...		
Firewood "	2,714	...	103,511	174,314
Drift timber, &c	2,365	20,705	2,767	Mds
(2)—*To purchasers from Forest Depôts*				
Sal logs	703	18,104		
Asaina " ...	6	139		
Sál sleepers	122,025	183,037		
Asaina "	52,905	79,357		
Sal signal posts	52	928		

ANNUAL FORM No. 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE

Account of Timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally during the year 1887-88—(continued).

Particulars		Number or quantity	Cubic feet.	TOTAL OF EACH HEAD Number or quantity	Cubic feet
Sal off cuts and ends of sleepers,	Number	11,141	78,960		
	Maunds	16,313			
Sál poles, beams, &c.		4,500	19,833		
Ballas, golas, karos, poles, &c		7,102	10,732		
Sal pieces of logs		3,562	14,248		
Sál agailas		33	116		
Sál harra		1	4		
Sal dharaus		74	238		
Manufactured articles		17	155		
Sal planks		217	54		
Firewood		15,820	31,200		
Minor produce	Number	13	—	204,181	485,756
	Maunds	8,118			
Drift collection	Number	1,770	39,651	47,761	Mds
	Maunds	7,510			
(3)—*To purchasers locally*					
Sál sleepers		2	3		
Sál dharaus		62	265		
Sál pieces		3	14		
Sál poles, karos, ballas, &c		3,392	2,628		
Mahua pieces		11	65		
Miscellaneous poles		820	1,372		
Asaina poles		4	8		
Mango off cuts	Mds	53	...		
Minor produce	Mds	808			
Drift collections	Number	121	7,577	4,415	11,932
	Maunds	30		951	Mds
(4)—*By conversion in Depôt.*					
Sál logs		1,577	88,189		
Asaina „		68	4,157		
Sissu „		10	250		
Haldu „		1	90		
Sál pieces		235	2,388		
Asaina „		1	9		
Sissu „		1	7		
Sál scantlings		3,004	5,078		
Asaina „		89	89		
Sissu scantlings		2	2		
Sal sleepers		2,868	4,302		
Sissu off cuts		5	...		
Haldu „		3	16		
Sál „		6,631	14,473		
Asaina „		205	433		
Poles		1,948	1,454		
Chaupatta		2	2		
Haldu pieces		1	10	16,651	115,929
(5)—*By lost or written off*					
Sál logs		3,069	112,924		
Asaina logs		55	1,260		
Pieces of wood		48			
Sál sleepers		6,696	9,012		
Asaina „		...	531		
Sál planks		441	110		
Dhao axles		67	33		
Poles		729	284		
Chaupatta		...	6		
Off-cuts	Mds	313			
Firewood	Mds	325	1,325		
Charcoal	Mds	14	50		
Canoes		343	...		
Minor produce	Mds	3,008	...	11,455	126,557
Drift timber		17	122	3,660	Mds
(6)—*By used Departmentally.*					
Sál logs		172	1,710		
Sissu „		10	100		
Sal sleepers		639	977		
Sal signal posts		6	156		
Sal planks		402	131		

ANNUAL FORM No. 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Account of Timber and other produce cut or collected by Government agency and brought to sale depôts sold locally during the year 1887-88—(continued).

Particulars.	Number or quantity.	Cubic feet.	TOTAL OF EACH HEAD. Number or quantity.	Cubic feet.
Sál karis	1	1		
Sál off-cuts ... ... { Number ...	25,270	1,333		
{ Maunds ...	12,953			
Sál scantlings	582	6,940		
Jamun off-cuts	43	21		
Asain wood	1	40		
Manufacture article	1	1		
Poles	748	3,243	27,945	14,654
Drift timber	1	1	12,953 Mds.	
(7)—By free grants.				
Sál slabs or off-cuts ... { Number ...	4,190	310	4,312	3,360
{ Maunds ...	300		300 Mds.	
Asaina logs	122	3,050		
(8)—By Transfer.				
Sál logs	2,739	132,782		
Asaina logs	381	19,051		
Haldu logs	25	1,213		
Sál scantlings	18,104	9,719		
Asaina „	147	121		
Sál sleepers	19,658	29,487		
Asaina „	3	4		
Haldu scantlings	15	5		
Sál off-cuts ... { Number ...	5,540	...		
{ Maunds ...	392			
Sissu „	598	...		
Poles	200	250		
Firewood .. .. Mds.	2,988	...		
Canoes	4	...		
Inter-transfer asaina to sál logs	28	...		
Sál scantlings	1	5		
Adjustment sál sleepers	330	440		
Poles, &c.	...	5,485		
Sál to asaina	10	520		
Sál sleepers	707	1,019	48,545	207,854
Asaina sleepers	...	6,852	3,380 Mds.	
(9)—Made over to claimants.				
Drift collections	159	1,788	159	1,788
Total, Disposal ... { Number ...	...	..	421,174	1,142,144
{ Maunds ...	...	...	78,772	

BALANCE AT CLOSE OF THE YEAR.

SALE DEPÔT.

Bahraigh Division. Bahraigh Depôt.	Sál logs	1,401	66,522	
	Asaina „	130	5,094	
	Sissu „	15	344	
	Haldu „	20	601	
	Sál scantlings	23,870	18,389	
	Sál sleepers	23,310	34,740	
	Asaina scantlings	403	330	
	Sissu „	384	140	
	Sundri „	80	9	
	Deodár „	5	16	
	Dhaunin	27	8	
	Haldu	11	10	
	Miscellaneous poles ...	433	529	
	Sissu stumps	38	281	
	Sál pieces or bolas ...	106	1,482	
	Asaina „ „	9	188	
	Sál off-cuts	2,324	...	
	Asaina off-cuts	267	...	
	Sissu „	97	...	
	Haldu „	4	17	
	Firewood ... Mds.	46,084	...	
	Large boats	10	...	
	Sissu pieces	10	142	54,060 140,565
	Drift timber	1,143	9,634	46,084 Mds.

ANNUAL FORM No. 56.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Account of Timber and other produce cut or collected by Government agency and brought to sale depôts or sold locally during the year 1887-88—(concluded).

Particulars.			Number or quantity.	Cubic feet.	Total of each head. Number or quantity.	Cubic feet.
* Bahraigh Division—(concluded)	Lucknow Depôt.	Sál scantlings	8,307	5,287		
		Sissu "	17	11		
		Asaina "	188	115		
		Haldu "	15	5		
		Sissu off-cuts (Maunds)	141	..		
		Sissu off-cuts (Number)	351	..		
		Firewood (Maunds)	56,996	...	8,628	5,418
					57,137 Mds.	
	Lakarmandi Depôt.	Sál sleepers	549	732	808	1,120
		Asaina sleepers	259	388		
	Kheri Division.	Sál logs	6,038	256,914		
		Asaina "	1,693	70,742		
		Sissu "	3	84		
		Haldu "	312	20,568		
		Sál sleepers	30,257	45,383		
		Asaina "	67,115	98,744		
		Sál signal posts	11	203		
		Sal slabs	266,681	400,298		
		Asaina "	70,559	231,558		
		Large boats	60	...		
		Canoes	503	...	443,283	1,124,474
	Bahraich Division.	Sál sleepers	582	774		
		Sál off-cuts	5,048	12,897		
		Sál logs	45	1,812		
		Sál poles	6,688	77,606		
		Sál sleepers, Kheri	8,884	13,326		
		Mongri	2	...		
		Plank	1	...	22,859	106,505
		Miscellaneous poles	9	150		
	Gonda Division.	Sál logs	630	1,920		
		Asaina logs	98	490		
		Sál off-cuts	2,537	1,268		
		Asaina "	70	70		
		Jamun logs	27	108		
		Jamun off-cuts	450	225		
		Dhao logs	15	90		
		Poles	7,411	2,726		
		Mahua logs	17	85		
		Dhao axles	192	96		
		Jothas	11	5		
		Axe handle	13	2		
		Firewood (Maunds)	32,000	...	11,471	8,055
		Minor produce (Maunds)	1,903	...	33,903 mds.	
	Gorakhpur Division.	Sál pieces	882	3,528	...	...
		Sál sleepers	620	930	...	...
		Sál ballas	4	8	...	..
		Sál planks	300	75	...	...
		Sál agailas	168	336	2,106	5,354
		Drift collection (Number)	132	477	1	
		Drift collection (Maunds)	+1			Mds.
	Bhira Sub-Division.	Poles, beams, rafters, &c.	2,502	10,103	...	
		Firewood (Number)	5	...	2,567	10,163
		Firewood (Maunds)	19,490	...		
		Minor produce (Maunds)	53	...	19,543 Mds.	
	Pilibhit Division.	Poles &c.	592	626	592	626
		Firewood (Maunds)	4,600	...	4,600 Mds.	
	Total, Balance		...	...	540,524	14,02,280
			...	...	161,208 Mds.	
	GRAND TOTAL		...	...	907,098	25,44,424
			...	...	240,040 Mds.	

DATED NAINI TAL:
The 4th August, 1888.

E. WOOD, CAPTAIN,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

FORM No 57

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Abstract showing the value of timber and other produce at sale depôts for 1887-88.

Description of timber and other produce	On hand at commencement of the year			On hand at close of the year			Difference in value		Remarks.
	Number	Cubic feet.	Value.	Number	Cubic feet	Value.	In favour of the year	Against the year	
				(I) Reserved Forests.					
Timber			Rs.			Rs.	Rs.	Rs.	
Logs and pieces	1,507	74,631	52,'92	1,572	74,741	37,370	...	...	
Sleepers and scantlings	72,317	78,409	65,172	57,325	60,179	60,179		...	
Poles and saplings	845	1,056	211	433	529	110	...	...	
Off cuts, slabs and pieces (Number)	8,851	281	4,630	3,201	2,020	1,600	...		
Off cuts, slabs and pieces (Maunds)	1,904	..		141		...		..	
Canoes and boats	5		500	19		3,800	..	..	
Draft collections				1,146	9,634	4,408		..	
Total, Timber (Number)	83,505	154,277	1,23,105	63,696	147,108	1,07,467			
Total, Timber (Maunds)	1,904			141					
Firewood Mds	11,946	...	3,962	103,080	..	20,616	...		
Total, Firewood .. Mds.	11,946	..	3,062	103,080	...	20,616			
Total (Number)	83,505	154,277	1,27,067	63,696	147,108	†1,28,083	996	...	
Total (Maunds)	13,850			103,221					

† 83

ANNUAL FORM No. 57A.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Abstract showing the value of timber and other produce in forest depôts other than sale depôt for the year 1887-88.

Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks.
	Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favour of the year.	Against the year.	
Timber.			**Reserved Forests.**						
			Rs.			Rs.	Rs	Rs.	
Logs	11,315	232,640	1,50,920	9,761	356,291	1,33,609	...	.	
Sleepers and scantlings	157,080	230,700	2,11,171	107,769	169,435	1,19,575	...	...	
Poles and saplings	11,683	102,557	35,093	17,572	92,382	3,514	...	...	
Off-cuts slabs, &c., &c. — Number	345,778	714,521	15,504	347,116	646,592	20,412	...	...	
Off-cuts slabs, &c., &c. — Maunds	14,387	...		...	...		...	...	
Boats and canoes	807	...	39,524	563	477	20,125	...	...	
Drift collections	...	...		132	Maund 1	100	...	...	
Total, Timber — Number	526,663	1,280,418	4,52,212	482,918	1,255,177	2,97,335	...	...	
Total, Timber — Maunds	14,387			...	1				
Firewood — Maunds	6,800	31,200	725	56,090	...	5,609	...	...	
Charcoal — Maunds	14	50	7	...	...	...	...	...	
Total — Maunds	6,814	31,250	732	56,090	...	5,609	...	. .	
Minor produce — Maunds	3,815	...	1,555	1,953	...	500	...	...	
Minor produce — Number	2	..		5	...				
Grand Total — Number	526,665	1,310,668	4,54,499	482,918	1,255,177	3,03,444	...	1,51,055	
Grand Total — Maunds	24,496			5,8043					
Abstract of Forms No. 57 and 57A.									
Timber	610,168	1,434,695	5,75,317	546,609	1,402,280	4,04,802	...	1,70.515	
Firewood — Maunds	18,260	31,250	732	159,170	...	26,225	21,511	. .	
Minor produce — Number	2	...	1,953	5	...	...	. .	...	
Minor produce — Maunds	3,815	...		1,953		500	...	1,055	
Total — Number	610,170	1,465,945	5,77,604	546,614	1,402,280	4,31,527	...	1,46,077	
Total — Maunds	22,075	...		161,123					

Dated Naini Tál:
The 4th August, 1888.

E. WOOD, Captain,
Conservator of Forests, N.-W. P. and Oudh,
Oudh Circle.

FORM No. 57B.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Abstract showing the value of live and dead stock for the year 1887-88.

Description of live and dead stock.	On hand at the commencement of the year.		On hand at the close of the year.		Difference in value.		Remarks.
	Number.	Value.	Number	Value.	In favor of the year.	Against the year.	
DIRECTION DIVISION.		Rs.		Rs.	Rs.	Rs.	
Dead Stock.							
3 Tools	2	2	1	1	...	...	
4 Office furniture	63	306	64	276	...	...	
5 Tents and equipages	5	260	5	210	...	...	
7 Miscellaneous	4	4	4	3	...	...	
Total	74	572	74	490	..	82	
PILIBHIT DIVISION.							
Live Stock.							
Elephant	1	1,800	1	1,500	...	...	
Bullocks	4	154	4	80	...	...	
Dead Stock.							
1 Surveying and other instruments	34	10	44	14	...	...	
2 Machinery	2	31	2	25	...	...	
3 Tools	389	320	416	300	...	...	
4 Office furniture	17	102	14	70	.	..	
5 Tents and equipages	5	70	6	70	..	...	
7 Miscellaneous	439	916	501	900	...	...	
Country carts	2	80	2	50	...	...	
Buildings	8	7,875	8	8,000	...	..	
Total	951	11,367	998	11,009	..	358	
BHIRA DIVISION.							
Live Stock.							
Bullocks	2	90	2	80	...	...	
Dead Stock.							
1 Surveying and other instruments	74	116	55	119	...	...	
2 Machinery	19	75	2	523	...	..	
3 Tools	128	87	141	215	...	...	
4 Office furniture	61	120	54	114	...	...	
5 Tents and equipages	4	190	4	190	.	.	
6 Building materials, small stores and house fittings.	215	494	271	466	...	...	
7 Miscellaneous	64	125	92	145	...	...	
Country carts	2	80	2	50	...	...	
Buildings	8	11,044	8	10,000	...	...	
Total	577	12,421	681	11,905	...	516	
KHERI DIVISION.							
Live Stock							
Elephants	3	6,000	2	3,800	...	...	
Bullocks	3	82	1	27	...	...	
Buffaloes	2	10	2	10	...	...	
Dead Stock.							
1 Surrvying and other instruments	20	882	32	906	...	...	
3 Tools	2,895	2,050	2,507	1,840	..	...	
4 Office furniture	320	981	306	947	...	...	
5 Tents and equipages	16	1,548	13	907	...	...	
6 Building materials, small stores and house fittings.	4,271	1,525	3,707	1,492	...	...	
7 Miscellaneous	1,266	1,145	1,020	1,260	...	...	
Country carts	10	103	2	38	...	...	
Buildings	10	31,470	12	35,145	...	...	
Total	8,825	45,852	7,604	46,387	495	...	

FORM No. 57B.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Abstract showing the value of live and dead stock for the year 1887-88—(continued).

Description of live and dead stock	On hand at the commencement of the year		On hand at the close of the year		Difference in value		Remarks.
	Number	Value	Number	Value	In favor of the year	Against the year.	
BAHRAMGHAT DIVISION		Rs		Rs	Rs	Rs	
Live Stock							
Buffaloes	9	90	9	90	..		
Dead Stock							
1 Surveying and other instruments	49	121	49	115	.		
2 Machinery ..	51	39,395	51	39,000	.	...	
3 Tools .	790	1,817	810	2,700			
4 Office furniture	71	489	71	450			
6 Building materials, small stores and house fittings	73	67	73	60	...		
7 Miscellaneous	...	1,910	..	630		...	
Timber transport carts	2	250	2	200	...		
Country carts	10	125	10	120		.	
Buildings	2	10,000	2	9,500	..		
Total	1,006	54,244	1,077	52,865		1,379	
BAHRAICH DIVISION							
Live Stock							
Elephants ...	2	4,700	1	2,600	..	...	
Dead Stock							
1 Surveying and other instruments ...	61	159	86	141	...		
3 Tools	1,817	1,065	1,631	893			
4 Office furniture ..	284	1,221	265	1,060			
5 Tents	5	320	5	200			
6 Building materials, small stores and house fittings	111	66	47	40		...	
7 Miscellaneous ...	358	522	278	400	...	..	
Buildings	32	43,433	32	41,500		.	
Total ..	2,670	51,486	2,345	46,894		4,592	
GONDA DIVISION.							
Live Stock							
Elephant ...	...						
Buffaloes ...	..		..				
Dead Stock							
1 Surveying and other instruments ..	6	109	17	76			
3 Tools	335	242	331	127			
4 Office furniture	58	295	101	348			
5 Tents and equipages	5	487	4	500			
6 Building materials, small stores and house fittings	33	10	33	15			
7 Miscellaneous	5	7	11	15	..	...	
Buildings . .	2	4,000	2	4,000			
Total .	444	5,150	499	5,081	...	69	
GORAKHPUR DIVISION.							
Live Stock							
Elephant .	1	1,100	1	1,000			
Dead Stock							
1 Surveying instruments	71	200	71	190			
2 Machinery ...	4	150	1	140	...		
3 Tools	258	346	284	421			
4 Office furniture	30,538	1,107	50,091	1,564	...	...	
5 Tents and equipages	5	200	5	190	...	.	
7 Miscellaneous	129	209	129	200		.	
Buildings	10	10,500	10	10,000		...	
Total ...	31,013	13,812	51,192	13,705		107	
GRAND TOTAL ...	45,555	1,94,944	64,420	1,88,336	...	6,608	

FORM No. 57B

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Abstract showing the value of the live and dead stock for the year 1887-88—(contd)

Description of live and dead stock	On hand at the commencement of the year		On hand at the close of the year		Difference in value		Remarks
	Number	Value	Number	Value	In favor of the year	Against the year	
ABSTRACT OF THE CIRCLE		Rs.		Rs	Rs	Rs	
Live Stock							
Elephants	7	13,000	5	8,900			
Bullocks ..	9	326	7	187			
Buffaloes	11	106	11	106			
Total	27	14,042	23	9,193		4,889	
Dead Stock							
1 Surveying and other instruments	324	1,597	354	1,561	..		
2 Machinery ..	73	30 661	56	39,691	...	.	
3 Tools	6,563	5,938	6,121	6,497			
4 Office furniture	31,412	4,601	51,566	4,829	..	..	
5 Tents and equipage	45	3,075	42	2,267			
6 Building materials, small stores and house fittings	4,703	2,102	4,131	2,073	,	.	
7 Miscellaneous ..	2 310	4,838	2,035	3,622		..	
Timber transport carts .	2	259	2	200	,	..	
Country carts .	26	728	16	258		..	
Buildings . .	72	1,18,322	74	1,18,145			
Total	45,528	1,80,912	64,397	1,79,143		1,769	
GRAND TOTAL .	45,555	1,94,944	64,420	1,88,336		6,608	

DATED NAINI TAL
The 4th August, 1888

E WOOD, CAPTAIN,
Conservator of Forests, N W P and Oudh, Oudh Circle

ANNUAL FORM No. 58—[*Prescribed*].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Summary of Revenue of the different Divisions, during 1887-88.

Budget heads.	Direction.	Kheri Division.	Bhira Sub-division.	Barmaghát Division.	Bahraich Division.	Gonda Division.	Gorakhpur Division.	Pilibhít Division.	Total.
RECEIPTS.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY:—									
(a) Timber	...	28,998 0 0	65 13 0	1,50,880 4 0	27,259 3 3	496 6 7	16,927 8 6	5 11 9	2,24,632 15 1
(b) Firewood and charcoal	..	17 9 3	25 8 6	10 14 0	671 10 7	101 8 0	313 4 0	474 13 6	1,615 3 4
(c) Bamboos'	...	.	..	...	...	...	...	...	...
(d) Sandal-wood	...	...	...	...	...	...	...	...	...
(e) Grass and other minor produce	...	...	6,372 10 10	...	...	...	110 7 0	1 14 0	6,484 15 10
II.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS:—									
(a) Timber	..	5,826 0 3	360 6 0	...	50,776 10 0	10,292 14 3	4,610 2 3	1,907 14 3	73,773 15 0
(b) Firewood and charcoal	.	507 8 0	420 7 9	...	1,926 8 0	1,656 4 8	4,162 11 0	1,332 13 6	10,006 4 11
(c) Bamboos	...	...	...	...	...	...	...	...	...
(d) Grazing and fodder grass	..	10,772 10 11	2,767 1 9	...	13,944 2 6	6,488 1 10	8,402 1 10	1,004 2 6	43,378 5 4
(e) Other Minor Produce	...	11,295 7 3	776 3 3	...	8,856 1 0	7,875 4 3	17,224 15 4	2,209 9 4	48,237 8 5
III.—CONFISCATED DRIFT AND WAIF WOOD	...	66 5 6	3 8 0	4,713 15 2	403 4 4	619 2 9	4,632 11 4	269 13 9	10,708 12 10
IV.—REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT.									
(a) Duty on foreign timber and other forest produce ...	...	...	...	.	...	...	...	..	
(b) Revenue from shared and private forests ..	...	...	...	..	.	...	...	...	
V.—MISCELLANEOUS:—									
(a) Fines and Forfeitures	...	...	14 4 0	...	562 6 10	...	277 9 0	42 8 0	896 11 10
(b) Refunds	0 1 4	108 14 0	...	121 6 0	4 0 0	6 1 1	...	...	240 6 5
(c) Other sources	...	5,161 1 8	629 3 8	506 13 5	557 7 0	175 9 5	2,423 7 6	441 2 3	9,894 12 11
TOTAL, RECEIPTS ..	0 1 4	62,753 8 10	11,435 2 9	1,56,233 4 7	1,04,961 5 6	27,711 4 10	59,084 13 9	7,690 6 4	4,29,969 15 11

NAINI TAL:
The 11th June, 1888.

J. TAYLOR,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 58—[*Prescribed*].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Summary of Expenditure of the different Divisions, during 1887-88—(continued).

Budget Heads.	Division.	Kheri Division	Bhira Sub-Division	Bahraughát Division	Bahraich Division	Gonda Division.	Gorakhpur Division.	Pilibhít Division	Total
A—CONSERVANCY AND WORKS	Rs. a p	Rs a p	Rs. a. p	Rs a p	Rs. a p	Rs a p	Rs a p.	Rs. a p	Rs a p.
I—Timber and other produce removed from the forests by Government agency—									
(a) Timber ...	...	92,130 4 1	107 0 0	17,510 5 8	2,988 15 4		4,722 15 1		1,17,459 8 2
(b) Firewood and charcoal ...	...	...	2,193 3 6	...	16,466 6 1	955 0 6	1,250 7 10	203 14 2	21,069 0 1
(c) Bamboos		...	...	...	...		...		
(d) Sandal-wood ...	...	...	...	...		...		...	
(e) Grass and other minor produce ...	...	...	1,237 2 7	...		750 0 0		176 9 6	2,163 12 1
II—Timber and other produce removed from the forests by consumers or purchasers ...	...	1,699 9 11	2,755 7 10		1,792 12 10	1,774 15 3	1,821 12 5	3,763 5 5	13,607 15 8
III—Confiscated, drift and waif wood ...	...		...	1,503 7 9		63 13 2	2,015 2 0		3,582 6 11
IV—Revenue from forests not managed by Government—									
(a) Duty on foreign timber and other forest produce,		...	...						...
(b) Revenue from shared and private forests ...		...	...	...	...	...			...
V—Rent of leased forests and payments to shareholders in forests managed by Government ...		...	...	...	...	...	...		
VI—Live and dead stock—									
(a) Purchase of cattle ...									
(b) Feed and keep of cattle ...		1,494 12 7	106 8 1	454 1 7	1,203 5 8	29 13 6	614 2 11	884 13 8	4,787 10 0
(c) Plant, tools and instruments		56 2 6	633 14 3	998 8 8					
VII—Communications and buildings:—					76 6 6	170 4 5	160 4 0	152 9 3	2,348 1 7
(a) Roads and bridges ...		5,908 10 4	700 7 0	199 14 3	1,924 7 0	470 13 5	243 5 0	1 509 11 0	11,047 4 0
(b) Buildings ...		2,940 12 3	965 10 1	229 1 8	965 15 11	3,497 5 7	737 1 6	1,242 3 5	10,618 2 5
(c) Other works ...		332 8 1	213 1 3	1 0 0	421 8 6	152 0 0	3 7 6	443 6 6	1,566 10 10
VIII—Demarcation, improvement and extension of forests:—									
(a) Demarcation ...	...	2 2 0	315 14 6		...	207 7 7	0 8 0	1,348 0 0	1,874 0 1
(b) Compensation for land and rights		...			...		40 7 0		40 7 0
(c) Surveys and working plans	...	837 8 10	49 10 3		...	81 0 0	671 6 10		1,639 9 11
(d) Plantations ...	...	248 12 9	75 8 9			2 9 0	2,539 8 3		2,866 6 9
(e) Protection from fire	...	3,744 11 9	1,118 7 9		2,884 3 8	320 7 1	1,414 7 4	1,666 4 2	11,148 9 9
(f) Other works	...	487 15 3	541 2 0	...	950 15 10	244 8 0	2,376 14 9	36 1 0	4,637 8 10
IX—Miscellaneous:—									
(a) Refunds	1 4 0	104 4 0	...	0 10 0	1,468 5 0	27 12 0		395 0 0	1,997 3 0
(b) Law charges ...		6 3 0	9 11 9	...	0 7 6	...	372 15 6	0 3 0	389 8 9
(c) Other charges ...		413 1 5	197 1 10	34 8 9	24 15 0	87 6 0	183 9 6	234 10 3	1,175 4 9
Total, A—Conservancy and Works ...	1 4 0	1,10,547 6 9	11,219 15 5	20,931 10 4	31,158 12 10	8,335 3 6	19,168 7 5	12,056 11 4	2,18,919 7 7

NAINI TAL:
The 11th June, 1888.

J TAYLOR,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 58—[*Prescribed*].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Summary of Expenditure of the different Divisions during 1887-88—(concluded).

Budget Heads	Direction	Kheri Division	Bhira Sub-Division	Bahramghát Division	Bahraich Division.	Gonda Division.	Gorakhpur Division.	Pilibhít Division.	Total.
	Rs. a. p	Rs. a. p	Rs. a. p.	Rs. a. p	Rs. a. p	Rs. a. p	Rs. a. p	Rs. a. p	Rs. a. p.
Brought forward, Total A, Conservancy and Works	1 4 0	1,10,547 6 9	11,219 15 5	20,931 10 4	31,158 12 10	8,835 3 6	19,168 7 5	12,056 11 4	2,13,919 7 7
B—ESTABLISHMENT									
I—SALARIES—									
(*a*) Conservators	12,779 8 4					...	...		12,779 8 4
(*b*) Superior Officers	290 5 2	14,250 0 0	..	3,000 0 0	6,290 0 0	2,200 0 0	6,584 0 11	12,936 4 9	45,550 10 10
(*c*) Subordinate Forest and Depôt Establishments ...		4,823 5 4	1,332 12 8	141 13 5	2,187 7 2	1,551 9 9	4,907 10 1	742 15 0	15,687 9 5
(*d*) Office Establishments	2,399 3 2	1,800 0 0	47 13 0	540 0 0	1,188 4 10	595 3 2	105 5 4	694 0 1	7,339 13 7
(*e*) Deputation and Special Allowances		50 0 0	...	..		..	.		50 0 0
II—TRAVELLING ALLOWANCES.—									
(*a*) Conservators	1,899 13 6		...	.	...				1,899 13 6
(*b*) Superior Officers	234 6 0	1,642 10 3	..	391 5 0	1,245 3 6	631 1 2	1,817 0 0	1,407 9 0	7,369 7 11
(*c*) Subordinate Forest and Depôt Establishments ...		822 2 6	252 3 10	...	275 12 0	260 12 8	174 12 10	225 8 3	1,991 4 1
(*d*) Office Establishments ...	828 5 5	495 8 0	23 0 6	...	365 15 9	172 11 7	...	285 8 6	2,191 1 8
III—CONTINGENCIES—									
(*a*) Stationery	4 2 3	15 1 0	7 10 0	6 15 9	13 14 0	15 10 0	4 11 0	7 12 6	75 12 6
(*b*) Carriage of tents and records	325 3 1	106 9 0	90 5 0		181 11 0	117 8 9	76 6 0	89 15 6	987 10 4
(*c*) Rents, and rates and taxes ..	211 8 0	...	102 0 0	.	0 8 6	94 5 8	100 0 0	103 8 0	611 14 2
(*d*) Pay of police guards		198 6 4		192 0 0	119 0 0	177 9 3	59 8 0	139 3 7	885 11 2
(*e*) Official postage ..	208 13 0	112 3 9	51 9 0	95 9 6	87 4 6	72 14 0	47 5 6	43 14 7	719 9 9
(*f*) Sundries	409 1 1	616 1 6	123 12 5	93 13 2	521 1 7	212 3 2	143 3 9	229 14 7	2,349 3 3
TOTAL, B—ESTABLISHMENTS ...	19,590 5 0	24,931 15 8	2,031 2 4	4,461 8 10	12,476 7 10	6,101 9 2	14,019 15 5	16,906 2 3	1,00,519 2 6
GRAND TOTAL OF EXPENDITURE .	19,591 9 0	1,35,479 6 5	13,251 1 9	25,393 3 2	43,635 4 8	14,936 12 8	33,188 6 10	28,962 13 7	3,14,438 10 1

NAINI TAL:
The 4th August, 1888.

J TAYLOR,
Assistant Comptroller-General (Forests)

ANNUAL FORM No. 59.—(*Prescribed*).

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Account Current for the year 1887-88.

	Rs a p	Rs a p		Rs. a. p	Rs a p
To Cash Balance	...	1,201 3 3	By Expenditure as per Annual Summary, Form No 58 ...	.	3,14,438 10 1
„ ¼ III —Assessed Taxes—			„ Deposits		
Income Tax—Deductions from salaries		1,648 4 4	„ Forest Cash Remittances—Local—		115 4 0
„ Revenue as per Annual Summary, Form No. 58	...	4,29,869 15 11	Remittances to Treasuries	3,78,127 11 9	
„ Service Funds—			Inter-divisional transfers ...	43,183 9 8	4,21,311 5 5
Civil Fund—Ordinary, Bengal	..		„ Advances recoverable ...		2,50,159 9 6
„ Additional Bengal	...		„ Suspense	..	446 4 2
Military Fund—Bengal	107 0 2		„ Account Current (other Governments)—		
„ „ Madras	.		Remittances to the Government of India ...	734 4 10	
„ Orphan Fund—Bengal	87 8 0		Ditto ditto Burma ...	140 0 0	
Uncovenanted Service Family Pension Fund—Bengal ...	466 8 0		Ditto ditto Bengal ...	2,467 15 4	3,342 4 2
General Family Pension Fund	...				
Hindu Family Annuity Fund		661 0 2	„ Inter-departmental transfers—		
			Public Works Department, State Railway, Tirhoot State Railway	4,672 0 0	
„ Deposits	...	113 4 0	Public Works Department, State Railway, Provincial State Railway	2,474 14 9	
„ Forest Cash Remittances—Local—			Public Works Department, State Railway, Sitapur-Seramau State Railway	18,396 6 2	
Forest cheques drawn	3,01,596 11 0		Public Works Department, State Railway, Indian Midland State Railway	4,514 0 1	
Inter-divisional transfers	27,052 11 2		Public Works Department other Branches ...	19,614 1 5	
		3,28,649 6 2	Military Department, Bengal	.	
„ Advances recoverable	...	3,04,721 10 10	Civil Department—	.	
„ Suspense	.	367 0 5	Jails ...	7,8 8 11 11	
„ Account Current (other Governments)—			Miscellaneous	275 10 8	
Remittances from Government of India	3,428 4 2		Police	115 2 8	58,562 15 8
Ditto ditto Burma ...	140 0 0				
Ditto ditto Bengal	3,960 3 11	7,528 8 1	„ Cash Balance	...	
„ Inter-departmental transfers—					
Public Works Department, State Railway, Lucknow Sitapur and Seramau State Railway	1,970 6 2	1,970 6 2			
Public Works Department other Branches	...	1,240 11 0			
Military Department Bengal	..	128 13 0			
„ Civil Department—					
Jail	...				
Mathematical Instrument Department ...	100 12 0				
Miscellaneous					
Survey of India Department ...	175 4 0	276 0 0			
Total ...	..	1,07,376 3 4	Total ..	..	10,78,376 3 4

NAINI TAL.
The 4th August, 1888

J. TAYLOR,
Assistant Comptroller General (Forests).

ANNUAL FORM No. 60—[*Prescribed*].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Revenue received and Outstandings on account of Revenue during 1887-88.

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realised during year	Balance due to the Department at end of year.	Remarks
		Rs.	Rs.	Rs.	Rs.	Rs.	
Direction ...	Timber, grazing and other forest produce, &c.	...	...	...	...	...	
Pilibhit ...	Ditto ditto ...	..	7,704	7,704	7,630	74	
Bhira .	Ditto ditto ...	607	4,077	4,684	4,341	343	
Kheri ...	Ditto ditto ...	4,529	5,072	9,601	4,875	4,726	
Bahraunghát ...	Ditto ditto ...	2,193	36,496	38,689	38,689	...	
Bahraich ...	Ditto ditto .	2,350	3,652	6,002	3,178	2,824	
Gonda ..	Ditto ditto ...	..	3,801	3,801	3,190	611	Since realized.
Gorakhpur ..	Ditto ditto ...	3,760	62,784	66,544	63,045	3,499	
	Total ...	13,439	1,23,646	1,37,085	1,25,008	12,077	

ANNUAL FORM No. 61—[*Prescribed*].

FOREST DEPARTMENT, N.-W. P. AND OUDH, OUDH CIRCLE.

Outstanding and Liabilities on account of Contractors and Disbursers for 1887-88.

Division.	Department Debtor.			Department Creditor.			Balance due.	
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (outstandings).	By Department (liabilities.)
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p	Rs. a. p.
Direction ...	...	5,511 7 1	5,511 7 1	127 15 1	5,627 6 5	5,755 5 6	243 14 5	..
Kheri ...	55 6 1	1,77,193 2 3	1,77,248 8 4	51,310 5 8	1,52,846 9 7	2,04,156 15 3	27,535 7 8	627 0 9
Bhira ...	...	18,601 4 1	18,601 4 1	473 1 9	18,674 6 3	19,147 7 3	546 3 2	..
Bahraunghát ..	...	7,366 6 5	7,366 6 5	1,490 0 9	6,325 9 7	7,816 3 4	449 12 11	...
Bahraich ...	4 9 0	38,823 7 9	38,828 0 9	7,038 7 8	34,999 5 8	42,037 13 4	3,811 4 6	1 7 11
Gonda ...	.	12,395 12 8	12,395 12 8	921 13 9	13,091 8 1	14,013 5 10	2,517 9 2	.
Gorakhpur ..	..	23,233 12 2	23,233 12 2	2,999 8 1	26,138 15 11	29,138 8 0	5,844 11 10	...
Pilibhit ...	.	21,536 0 5	21,536 0 5	1,074 8 7	21,495 12 0	22,570 4 7	1,033 14 2	...
Total ...	59 15 1	3,04,721 10 10	3,04,781 9 11	63,976 5 7	2,80,150 9 0	3,40,135 15 1	41,982 13 10	628 8 8

ANNUAL FORM No. 62—[*Prescribed*].

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Financial results of the year 1887-88.

Division.	Timber and other produce removed from the forests by Government agency.		Other Revenue.		Formation, protection, and improvement of forest.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Direction ...	...	Charges	proportionately	distributed.	...	...	...	
Pilibhit .	482	380	7,208	15,734	15,025	7,690	31,139	
Bhira Sub-Division ..	6,454	2,537	4,971	6,271	5,020	11,425	15,428	
Kheri .	29,016	1,33,259	33,738	15,262	18,883	2,18,987	1,67,404	
Dahraunghat .	1,50,233							
Bahraich ...	27,031	19,455	77,030	13,246	15,288	1,04,961	47,989	
Gonda	593	1,705	27,113	8,195	7,214	27,711	17,114	
Gorakhpur ...	17,241	5,973	41,944	13,093	16,290	59,085	35,355	
Total ...	2,37,965	1,04,309	1,91,904	71,801	78,329	4,29,869	3,14,430	

NAINI TAL :—
The 4th August, 1888.

E WOOD, CAPTAIN,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

APPENDIX I.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Summary showing the total yield of timber during the year 1887-88.

Description of trees.	Selection fellings, i. e., fellings of mature trees.								Thinnings							
	By Government agency		By contractors.		By villagers		Total.		By Government agency		By contractors		By villagers.		Total.	
	No.	C ft.	No	C ft	No.	C ft	No.	C ft.	No.	C ft.	No.	C ft.	No	C ft	No	C feet.
Sál	3,483	254,875	644	16,941	1	..	4,128	271,816	98,895	5,720	...	.			98,895	5,720
Asuna	1,218	76,960	6	269	.	..	1,224	77,229	9	27			..		9	27
Sissu			...	..	..							.	..			
Tikoe or haldu	206	14,823			..		206	14,823								
Dhao			...		..	.					...	...	..	.	...	
Jamun		..	. 10	518		...	10	518						..		
Mahua									1	25	.	...		.	1	25
Kusum		.	...					...				.	.	...		
Miscellaneous		...							31,689	29,323	...	.			31,689	29,323
Mixed (fuel, &c.)										277,859			...	..		277,859
Drift			...		.		.		..	...		..	...			
Total, 1887-88	4,907	346,658	660	17,728	1	..	5,568	364,336	130,594	312,954	..	..	..		130,594	312,954
Total, 1886-87	3,432	209,233	445	11,872	2	43	3,879	221,158	13,953	304,838	.		..		13,953	304,838
Difference	+1,475	+137,420	+215	+5,856	—1	—43	+1,689	+143,228	+116,641	+8,116					+116,641	+8,116
	More trees felled in selection fellings in Kheri, also sale of standing trees in the Bahraich Division								More thinnings in Gonda, Bahraich and Bhira Divisions							

APPENDIX I.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Summary showing the total yield in timber during the year 1887-88—(concluded).

Description of trees.	Clearance.								Total		Remarks
	By Government agency		By contractors		By villagers.		Total.				
	No.	C ft	No.	C ft	No.	C ft.	No.	C ft.	No.	C ft.	
Sál	525	3,250	6,161	84,813	3,964	29,611	10,650	117,674	113,673	895,210	
Asana ..	18	181	1,075	31,138	314	3,140	1,407	34,459	2,640	111,715	
Sissu	5	100	3,556	17,095	6	16	3,567	17,211	3,567	17,211	
Tikoe or haldu . ..	.		69	5,349	..	...	69	5,349	275	20,172	
Dhao ...	10	104	...		..	..	10	104	10	104	
Jaman	4	35	46	4,736	.	.	50	4,771	60	5,289	
Maluna ..	.	...	1	109	..	.	1	109	2	134	
Kusum	.		561	14,066	..		561	14,066	561	14,066	
Miscellaneous	1,679	1,590	114,781	214,976	1,316,963	2,368,130	1,433,423	2,584,696	1,465,112	2,614,019	
Mixed (fuel, &c)		8,180		1,191,487		1,096,243	...	2,295,910	...	2,573,769	
Drift		42,702		20,368	...		...	63,070	...	63,070	
Total 1887-88 ...	2,241	56,142	126,250	1,584,137	1,321,247	3,497,140	1,449,738	5,137,419	1,585,900	5,814,759	
Total 1886-87	2,058	12,663	177,068	134,656	2,716,514	3,912,263	2,895,640	5,271,582	2,913,472	5,797,578	
Difference	+ 183	+ 43,479	— 50,818	+ 237,481	—1,395,267	— 415,123	— 1,445,902	— 134,163	—1,327,572	+ 17,181	
	Less fellings under clearances in Gorakhpur, Kheri and Pilibhit for want of demand.								On the whole more fellings on account of thinnings in certain divisions and more selection fellings of sal and asana in Kheri (trans-Sarda) Division.		

Naini Tal:
The 18th August, 1888

E WOOD, Captain,
Conservator of Forests, N W P and Oudh, Oudh Circle.

APPENDIX II.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Yield in Produce.

Description of produce.	1886-87.		1887-88.		Difference.				Remarks.
					More.		*Less.*		
	Quantity.	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
		Rs.		Rs.		Rs.		Rs.	
Timber, cubic feet ..	3,536,660	5,20,000	3,240,990	5,05,063	...	...	295,670	14,937	Decrease is mainly due to less timber felled.
Firewood and charcoal	2,260,918	22,000	2,573,769	40,000	312,851	18,000	...	...	Increase due to more fuel collected from improvement fellings in Baluraich, Gonda and Bhira.
Minor produce	..	71,457	...	65,703	...	...	...	5,754	Decrease owing to less demand on account of private competition.
Grazing dues ..	...	73,683	...	66,899	...	...	...	6,783	Decrease is due to fewer cattle grazed than last year.
Total ...	5,797,578	6,87,189	5,814,759	6,77,665	17,181	...	...	2,474	

Naini Tal:
The 4th August, 1888

E. WOOD, Captain,
Conservator of Forests, N-W P and Oudh, Oudh Circle.

APPENDIX III.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Statement showing disposal of produce collected by Government agency for 1887-88, *compared with results of* 1886-87.

Description of produce	Sold locally, i.e., not brought to depôt				Depôt transaction: Balance in hand at commencement of the year				Depôt transaction: Brought to depôt				Depôt transaction: Total received in depôt			
	1886-87.		1887-88		1886-87.		1887-88		1886-87		1887-88		1886-87		1887-88.	
	Quantity	Value.	Quantity	Value	Quantity	Value.	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value.	Quantity	Value
		Rs		Rs.		Rs		Rs		Rs.		Rs.		Rs		Rs.
Timber, cubic feet	5,375	5,304	11,932	10,274	1,929,228	6,90,435	1,433,695	5,75,317	851,939	7,39'360	1,064,435	4,70,980	2,781,167	14,29,795	2,498,130	10,46,306
Firewood, maunds	11	2	30	1	1,400	56	18,246	725	52,532	4,055	162,771	37,655	53,932	4,111	181,017	38,380
Charcoal, do	...	...	...	...	14	7	14	7	...	...	...	...	14	7	14	7
Minor produce, do	...		...	868	..		3,815	1,555	4,941	2,124	9,264	4,524	4,941	4,425	13,079	6,079
Total { Cubic feet	5,375	5,306	11,932	10,709	1,929,228	6,90,498	1,433,695	577,604	851,939	7,45,539	1,064,435	5,13,168	2,781,167	14,36,337	2,498,130	10,90,772
Total { Maunds	11		898		1,414		22,075		57,473		172,035		58,887		1,94,110	

Description of produce	Depôt transaction: Removed by purchasers from depôt				Converted in depôt				Lost or written short weight, or free grain, &c., adjustments, &c., &c				Used by Department			
	1886-87		1887 88.		1886-87		1887-88.		1886-87.		1887 88.		1886 87		1887 88.	
	Quantity	Value	Quantity	Value	Quantity	Value.	Quantity	Value	Quantity	Value	Quantity	Value.	Quantity	Value.	Quantity.	Value.
		Rs.		Rs.		Rs		Rs.		Rs.		Rs.		Rs.		Rs
Timber, cubic feet ..	580,821	4,71 158	628,871	3,04,952	221,416	1,10,703	115,929	84,129	17,666	8,833	125,182	75,804	23,650	11,825	14,654	11,359
Firewood, maunds	35,686	3,386	16,534	11,625	.		...	...			3,360	1,619				
Charcoal, do	.	...	..	...		...	...		...	.	325	37	..			...
Minor produce do. ..	1,108	860	8,118	5,285					3	1	14	7				
											3,008	294	14	8		
Total { Cubic feet .	580,821	4,75,404	628,871	3,21,962	221,416	1,10,703	115,929	84,129	17,666	8,834	128,542	77,761	23,650	11,833	14,654	11,359
Total { Maunds	36,794		26,652						3		3,347		15			

APPENDIX No. III.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Statement showing disposal of produce collected by Government agency for 1887-88, *compared with results of* 1886-87—(concluded).

Description of produce	DEPOT TRANSACTIONS.												Remarks.
	TRANSFERRED TO SALE DEPOT.				TOTAL ISSUED FROM DEPOT.				BALANCE AT CLOSE OF THE YEAR.				
	1886-87		1887-88.		1886-87.		1887-88.		1886-87.		1887-88.		
	Quantity	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
		Rs.		Rs.		Rs.		Rs.		Rs		Rs.	
Timber, cubic feet ...	5,03,919	2,51,959	2,07,854	1,65,641	13,47,472	8,54,478	10,95,850	5,41,504	14,33,695	5,75,317	14,02,280	4,04,802	
Firewood, maunds ..	..	.	2,988	500	35,686	3,386	21,847	12,168	18,246	725	1,59,170	26,225	
Charcoal, „ .	..	..	.	...	...	..	...	...	14	7	...	..	
Minor produce, do. ...	...	..	.		1,126	869	11,126	5,579	3,815	1,555	1,953	500	
Total . Cubic feet,	5,03,919	2,51,959	2,07,854	1,66,141	13,47,472	8,58,733	10,95,850	6,59,251	14,33,695	5,77,604	14,02,280	4,31,527	
Maunds ...	...		2,988		36,812		32,973		22,075		1,71,123		

NAINI TAL:
The 6th August, 1888

E WOOD, CAPTAIN,
Conservator of Forests N.-W. P. and Oudh, Oudh Circle.

APPENDIX IV.

FOREST DEPARTMENT, NORTH-WESTERN PROVINCES AND OUDH, OUDH CIRCLE.

Statement of forest produce given free to privileged villages during 1887-88.

Division	Description of produce		Number or quantity.	Cubic feet.	Amount.	Remarks.
					Rs a p	
PILIBHIT	Timber	Bullock loads	34,295	771,630	24,001 0 0	
		Head loads	77	231		
		Number	274	3,812		
	Firewood	Bullock loads	12,358	324,345	3,117 13 0	
		Head loads	490	1,659		
	Minor produce	Bullock loads	10,481	..	..	
		Head loads	772	...	2,786 15 9	
	Grazing dues		...	...	23,000 0 0	
	Total	Bullock loads	57,132	1,101,683	53,895 12 9	
		Head loads	1,339			
		Number	274			
BIJRA.	Timber	Cart loads	687	59,585	793 11 6	
		Head loads	148			
		Number	4,277			
	Firewood	Cart loads	1,305	116,451	253 7 9	
		Head loads	368			
	Minor produce	Cart loads	2,265	..	704 3 9	
		Head loads	395			
	Total	Cart loads	4,177	176,036	1,753 7 0	
		Head loads	911			
		Number	4,277			
KHERI.	Timber	Cart loads	9,880	571,220	11,038 14 0	
		Head loads	1,169			
		Number	1,597			
	Firewood	Cart loads	2,388	471,550	916 9 8	
		Head loads	5,298			
	Minor produce	Cart loads	16,058	..	6,091 0 0	
		Head loads	1,076			
		Grazing	6,252	...	1,004 5 6	
	Total	Cart loads	27,806	1,042,070	19,051 3 2	
		Head loads	8,133			
		Number	1,597			
		Grazing	7,252			
BAHRAICH	Timber		542,605	884,500	39,426 3 9	
	Firewood	Maunds	1,097	57,592	183 5 0	
	Minor produce		893,271		2,318 6 9	
		Total	1,437,003	942,092	41,927 15 6	
GONDA.	Timber		...	109,914	9,213 2 3	
	Firewood		...	124,345	412 10 6	
	Minor produce		...	...	298 13 10	
		Total	...	234,259	9,924 10 7	
	Grand Total	Bullock loads	57,132	3,457,140	1,04,153 1 0	
		Cart loads	31,983			
		Head loads	10,388			
		Number	1,443,211			
		Grazing	7,252			
	ABSTRACT.					
	Timber		594,590	2,400,398	80,062 15 6	
	Firewood	Maunds	23,172	1,036,344	4,885 15 11	
	Grazing		7,252	...	21,004 5 6	
	Minor produce		924,938	...	12,199 12 1	
		Total	1,549,951	3,457,140	1,27,153 1 0	

DATED NAINI TAL:
The 4th August, 1888.

E. WOOD, CAPTAIN,
Conservator of Forests, N.-W. P. and Oudh, Oudh Circle.

APPENDIX V.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

Abstract showing existing roads and fire-lines to end of March, 1888.

Description.	Pilibhit.		Bhira.		Kheri.		Bahraich.		Gonda.		Gorakhpur.		Total.		Remarks.
	Miles.	Furlongs.	Miles.	Furlongs.	Miles.	Furlongs.	Miles.	Furlongs.	Miles.	Furlongs.	Miles.	Furlongs.	Miles.	Furlongs.	
Main roads 100′ wide ...	...	...	...	...	...	...	...	...	7	4½	...	...	7	4½	1 mile and 4 furlongs absorbed into 20′ road.
„ „ 50′ „ ...	...	...	...	...	...	...	...	...	...	...	7	...	7	...	
„ „ 45′ „ ...	...	...	...	...	...	...	23	1	...	...	...	...	23	1	
„ „ 40′ „ ...	...	...	...	...	...	...	...	...	25	...	...	...	25	...	
„ „ 30′ „ ...	...	...	6	4	...	...	54	3	...	...	13	4½	74	3½	
„ „ 20 to 40′ „ ...	...	...	11	6	...	...	...	...	...	...	...	...	11	6	
„ „ 20′ „ ...	...	...	...	...	17	4	32	1	1	5	8	...	59	2	
Cart „ 18′ „ ...	...	...	...	...	28	...	...	...	...	...	...	...	28	...	
„ „ 15′ „ ...	160	2	101	6½	199	1½	235	...	26	7	22	4½	745	$5\frac{19}{30}$	
Path „ 10′ „ ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
„ „ 8′ „ ...	47	$5\frac{1}{2}$	39	4	...	...	...	...	...	...	...	...	87	$1\frac{1}{2}$	
Export „ 6′ „ ...	3	7	...	...	...	...	...	...	7	5	...	...	11	4	
Total ... 1887-88 ...	211	$6\frac{1}{2}$	159	$4\frac{1}{2}$	244	$5\frac{1}{2}$	344	5	68	$5\frac{1}{2}$	51	1½	1,080	$4\frac{41}{60}$	
Total ... 1886-87 ...	199	$5\frac{1}{2}$	157	4	239	$7\frac{1}{2}$	341	7	53	$7\frac{1}{2}$	51	½	1,044	$\frac{11}{20}$	
During 1887-88 ...	12	1	2	½	4	$5\frac{1}{2}$	2	6	14	6	...	½	36	$4\frac{2}{15}$	

Naini Tal:
The 4th August, 1888.

E. WOOD, Captain,
Conservator of Forests, N.-W. Provinces and Oudh, Oudh Circle.

APPENDIX VI.

Forest Department, North-Western Provinces and Oudh, Oudh Circle.

List of buildings, 1887-88.

Description.	Pilibhit.	Bhira.	Kheri.	Bahramghât	Bahraich.	Gonda.	Gorakhpur	Total.	Remarks.
1st Class double-storied rest-house	1	2	6	.	3	1	..	13	
1st Class single ditto		...	1	2	5	..	1	9	
2nd Class double ditto	.	..	5	.		.		5	
2nd Class single ditto		.	.	...	.		8	8	
3rd Class double ditto	7	6	.	.			1	14	
3rd Class single ditto	...	..	...	...	9	2	..	11	
Total ...	8	8	12	2	17	3	10	60	
Total up to 1886-87 .	8	8	11	2	17	3	10	59	
During 1886-87 ...	..	.	1	.	.	..	...		

Naini Tal:
The 4th August, 1888.

E. WOOD, Captain,
Conservator of Forests, N W P and Oudh, Oudh Circle.

No. 92 of 1888.

From

W. R. FISHER, Esq.,

Conservator of Forests, School Circle,

N.-W. Provinces and Oudh,

To

The SECRETARY to GOVERNMENT,

N.-W. Provinces and Oudh,

Revenue (Forests) Department.

Dated Dehra Dún, the 4th September, 1888.

Sir,

I have the honor to forward herewith the Annual Report for the School Circle, North-Western Provinces, for the year 1887-88.

There has been some delay, owing to press corrections, which I made chiefly to reduce its length, but I regret to say that it still covers 37 pages, instead of only 30, as ordered by the Government of India.

This appears to be partly due to the spacing of the paragraphs, which I could not alter this year without delaying the report too much.

I have the honor to be,

Sir,

Your most obedient servant,

W. R. FISHER,

Conservator of Forests, School Circle,
N.-W. Provinces and Oudh.

SCHOOL CIRCLE REPORT.

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ERRATA.

Annual Progress Report.

Forest School Circle, N.-W. P. and Oudh, 1887-88.

Page 9, para. 23, line 2, *for* "valled" *read* "valley."

„ 9, para. 23, line 2, *for* "any" *read* "and."

„ 10, line 5 from end, *for* "supervision" *read* "suspension."

„ 11, line 16 from end, *omit the words* "to be due."

„ 13, line 1, for "incendiaries" *read* "incendiary fires."

„ 17, line 12 from end, *for* "of" *read* "or."

„ 25, para. 51, line 13, *for* "working" *read* "marking."

„ 26, para. 55, line 1, *for* "eleven thousand three hundred" *read* "one lakh and thirteen thousand odd."

„ 26, para. 55, line 7, *omit* "Rs."

„ 27, para. 56, line 13, *for* "Rs. 0-1-1" *read* "Rs. 0-1-4½."

„ 28, para. 60, line 5, *for* "7,870" "under thinnings" *read* "9,870."

„ 28, para. 60, line 10, *for* "5886-87," *read* "1886-87."

„ 29, line 2, *for* "of" *read* "off."

„ 29, line 23, *for* "fallings" *read* "falling."

„ 29, para. 62, line 2, *for* "give" *read* "given."

„ 30, para. 64, line 1, *for* "seven" *read* "severe."

„ 31, third line from the end, *for* "charge" *read* "charged."

„ 36, line 2, *omit the words* "and the average of the previous five years."

„ 37, para. 75, line 5, *for* "Ganja" *read* "gauj"

„ 60, "Summary of Revenue, &c., against II*d.* Grazing, &c., Saháranpur Division," *for* "12,690" *read* "12,620."

W. R. FISHER,

Conservator of Forests, School Circle, N.-W. P. and Oudh.

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N.-W. PROVINCES AND OUDH.

SCHOOL CIRCLE.

ANNUAL PROGRESS REPORT

OF

FOREST ADMINISTRATION

FOR THE YEAR 1887-88:

By W. R. Fisher, B. A., Conservator of Forests, School Circle.

INTRODUCTION.

During the year the area of forest protected successfully from fire has been 377,623 acres, exceeding that protected last year by 24,399 acres, and the cost has only been 3·73 pies per acre as against 4·55 pies last year.

The failures are extensive, 18,758 acres, compared with 37,696 acres last year, but have been chiefly due to incendiarism.

The revenue of the circle, Rs. 3,57,134, is the highest on record, and the surplus, Rs. 79,542, exceeds that of last year by Rs. 10,026. The publication of the working plans for the Dehra Dún sál forests and the Tehri leased deodar forests mark an era in the history of the circle.

Staff of officers.

2. Mr. W. R. Fisher has retained charge of the circle and of the Forest School during Colonel Bailey's continued deputation as Conservator of the Panjáb. He was promoted to be Conservator substantive *pro tempore* from 16th March, 1887, and officiated as Conservator of Forests, 2nd grade, from 27th July, 1887 to 20th November, 1887, though this is a purely honorary distinction, no officiating allowance being admitted by the Accounts Department.

Mr. E. Mc.A. Moir, Deputy Conservator of Forests, held charge of the Jaunsár Division throughout the year.

Mr. A. Smythies, Deputy Conservator of Forests, held charge of the Dehra Dún Division until the 8th August, 1887; officiated as Deputy Director, Forest School, from 27th July, 1887, till the end of the year.

Mr. N. Hearle, Deputy Conservator of Forests, was in charge of working plans in the Jaunsár Division throughout the year.

Mr. M. H. Clifford, Assistant Conservator of Forests, returned from privilege leave on the 14th June, and held charge of the Saháranpur Division till the 1st November, when he proceeded on six months' special leave on private affairs.

Mr. A. G. Hobart-Hampden, Officiating Deputy Conservator of Forests, held charge of the Saháranpur Division from the 1st April, 1887, till the 14th June, and was then attached to the Dehra Dún Division till the 8th August, from which date he assumed charge of that Division until the close of the year, holding charge of the Saháranpur Division as well from 1st November till the end of the financial year.

Mr. L. Mercer, Assistant Conservator of Forests, joined the circle on the 10th June, 1887, and was attached to the Direction Division till 2nd November, 1887, when he was posted to the Saháranpur Division.

3. The following officers took part in the instruction at the Forest School as follows :—

Mr. W. R. Fisher	... Forest Botany.
„ A. Smythies	... Forestry and Mathematics.
„ M. H. Clifford	... Injuries to plants by insects, &c., and forest law.
„ A. G. Hobart-Hampden	... Forest works (buildings, roads, &c.,) and plan drawing.
„ L. Mercer	... Mathematics.
Forest Ranger Har Swarup, and Forester Mukandi Lal	.. Instruction of Vernacular class.

Summary of work done.

4. **Dehra Dun Division.—**

1. Publication of working plan of the forests for 15 years by Mr. E. E. Fernandez.
2. Drift timber and fuel operations on the Ganges river.
3. Sale of standing timber in improvement fellings for Rs. 16,601.
4. Leases of limestone, grass, gums and minor produce for Rs. 4,752.
5. Departmental supply of wood for Ganges Canal bunds.
6. Completion of Phandowála forest rest-house.
7. Extension of fire-conservancy to 245·6 square miles and reduction of cost to 4·24 pies per acre.

The following are the chief improvements required :—

A well considered system of fire-lines.

Settlement of villagers' rights in the Málkot reserve on a permanent basis, and fresh reservation in Málkot to ensure a permanent supply of fuel for lime-burning.

Good headquarters houses for range officers for this and the Saháranpur Divisions. A permanent building for this and the Saháranpur divisional offices.

5. **Saharanpur Division.**—The annual leases of bamboos and minor produce only yielded Rs. 14,145, a falling off of Rs. 8,190 as compared with last year's results.

Protection of 202½ square miles of forest from fire at 3·26 pies per acre.

Improvement fellings in Lakarkot forest were continued.

The Khara-Hardwár road was improved.

A rough working plan is required for this division, when its revenue may be expected to improve.

An officer's rest-house is required at Kasumri.

The arrangements for collection of grazing dues need revision.

6. **Jaunsar Division.—**

1. Sawing and carrying from the forests, 1,27,620 metre gauge sleepers, delivery of over one lakh of sleepers at Dakhpathar and rafting the same to Delhi.
2. Fuel supply of Chakráta Cantonment and of timber for the Military Works there.
3. Sale of 4,054 standing chír trees to purchasers.
4. Construction at Chakráta of a new headquarters house for divisional officer, and clerks' quarters.
5. Preparation of working plans for the Tehri leased deodar forests, and for the Chakráta fuel forests and Jaunsár chír forests by Mr. Hearle.
6. Demarcation of cultivation within reserved forests of the Deoban range, and counting the number of cattle entitled to free grazing within the reserves of the division.
7. Planting and sowing 110 acres in the different forests. Besides the usual works of fire-conservancy, control of Jumna river floating, &c.

The chief improvements called for are—

1. Settlement of Mahárája of Sirmur's claims and acquisition of dopôt lands.

2. Settlement of legal status of divisional officer as regards the leased forests in the division.

3. Settlement of some disputed boundaries.

4. Market for other hill timber besides chír and deodar, and for turpentine and resin.

CHAPTER I.

Area and Boundaries.

Area.

7. The area of the demarcated reserved and leased forests including Forest of Chakráta Cantonment under our management, 526 acres now shown for the first time in form 49, stood thus at the commencement and close of the year:—

	Acres	Square miles
On 1st April, 1887	513,607	804
On 31st March, 1888 ...	512,105	801
Decrease ...	1,502	3

There is a net decrease of 1,505 acres in the Jaunsár Division, owing to the retransfer of the Bashahr forests to the Panjáb Forest Department (1,430 acres), as also to 636 acres of inferior chír forest, honeycombed with cultivation, in the Missau Khat, relinquished to the villagers by G. O. No $\frac{837}{687\text{-}8}$, dated 9th February, 1888, against which may be placed the 526 acres of Cantonment Forests and an addition of 35 acres to the Matkángra block, due to the correction of the cantonment boundary. About three acres of land in the Pathri forests of the Saháranpur Division were restored by the Oudh and Rohilkhand Railway Company.

To improve the status of the valuable Mandáli deodar forest in Jaunsár, 666 acres of second class forest were constituted as first class, whilst 314 acres of grazing lands were reduced from first to 2nd class forest by order of Government.

The area of forest and Government waste land in this Circle are as follows:—

	Square miles.
Government reserved forest	724
Leased forests in native states ...	77 estimated
Total ...	801
Unclassed state forests ...	1
District waste land in Dehra Dún ...	13
Total ...	815

The Superintendent, Dehra Dún, was directed by Government to have the cultivated plots within the Jaunsár fuel forests demarcated, and under his orders Mr. Hearle has carried out this work for the forests of the Deoban range.

The question for further reservations of forests in the Málkot iláqua in Dehra Dún has been also referred to the Superintendent, Dehra Dún. Owing to the existence of valuable limestone in this tract, it is essential to preserve a fuel supply, as the neighbouring zamindari forests have been almost cleared of fuel. Some cultivations which had been allowed within the Government reserved forest of Málkot have been resumed, as the

cultivators had extended them beyond the limits fixed, and some fields have been demarcated and the cultivators allowed to retain them on condition of assisting in fire-conservancy.

The Sheopuri leased forest, which being undemarcated and of undefined extent, has never been shown in form 49, was ceded to the Tehri state on the 1st July, 1887; it was leased for 20 years by Government for Rs. 3,000 per annum.

Boundaries.

8. The total expenditure on demarcation has been as follows, as compared with the average of the last five years:—

Names of Divisions, &c.	Dehra Dún	Saháranpur.	Jaunsár.	Total.	Average of five years.
	Rs.	Rs.	Rs.	Rs.	Rs.
Construction and repairs of pillars	163	99	338	600	973
Clearing boundaries	467	417	75	959	1,198
Miscellaneous	141	...	54	195	96
Totals	771	516	467	1,754	2,267

Most of the expenditure in the Dehra Dún Division was for last year's work paid for in the present year, and little more could be done for want of funds.

It is hoped in this division to get private proprietors to clear half the common boundary lines as fire-lines, as many of the private sál forests in the Dún are being now protected from fire.

In the Saháranpur Division the boundaries are in very good order, and to prevent disputes a boundary ditch is being dug along bordering zamindari cultivations, 21 miles having been completed during the year at a cost of Rs. 20 per mile.

9. The following statement shows the condition of the pillars in the different Divisions.

Division.	*No. of pillars.*				*Miles of artificial boundary.*	
	In good condition.	Requiring repairs.	To be rebuilt.	Total.	In good order.	Total.
Dehra Dún	952	66	7	1,025	20	165
Saháranpur	346	109	18	473	124	124
Jaunsár	1,098	300	115	1,513	*Not shown.	
Grand Total ...	2,396	475	140	3,011	...	...

Disputed boundaries.

10. In the Dehra Dún Division a boundary dispute with General Lyster was still unsettled at the close of the year. Another arose with Colonel Swetenham regarding the proper position of a pillar in the Tirsál reserve.

In the Saháranpur Division the disputes with the Messrs. Powell are still unsettled, pending the decision of the Land Revenue Settlement Officer now at work in that district.

In Jaunsár the disputed boundaries between Taróch and Dadí, and Taróch and Jaunsár are still unsettled. The former was left by the Superintendent of Hill States, Simla, to be decided by the Deputy Conservator of Forests, Jaunsár, but this has not yet been done.

The latter dispute has been referred to Government, our claims depending on a map prepared in 1878 by the Great Trigonometrical Survey from data supplied by the Superintendent of the Dún and the Divisional Forest Officer.

This does not agree with the land settlement tracing of subsequent date, which, however, is not a very formal document.

Certain portions of the Deogarh forest boundaries are also unsettled.

CHAPTER II.

Surveys, Working Plans, &c.

Surveys

11. The levelling of the rau below the Siwáliks, to determine the effects of fire-conservancy, was done by two Forest Students.

The Circle Surveyor and the Draftsman rejoined from the Forest Survey Branch in May, 1887, and has since been chiefly engaged in filling in roads and buildings and boundary pillars on the divisional maps, and preparing two range maps for the Dehra Dún Division, also in surveying new roads and drawing plans of several buildings. Sanction of the Government of India has been received to a survey of the Tehri leased forests by the Forest Survey Branch.

A good deal of survey work has been done by Mr. Hearle in demarcating the cultivation chaks in the Deoban range, Jaunsár. Sixty chaks have been formed, which are being demarcated by 330 masonry pillars, whilst lines one foot broad will be cut from pillar to pillar, where the boundary of the chak is not a natural one.

Working plans

12. The total expenditure during the year on working plans has been Rs. 14,274, all in Jaunsár, as follows:—

				Rs
Salary and travelling allowance of	Deputy Conservator			8,858
Ditto	ditto	Forest Ranger ...	...	904
Ditto	ditto	Establishments	...	853
Ditto	ditto	Khalasis, coolies, &c		3,599
			Total	14,274

The following working plans have been published during the year and submitted for the orders of Government. Working plan of the leased Tehri-Garhwál deodar forests by Mr. Hearle and one of the Dehra Dun forests by Mr Fernandez.

Mr Hearle has also now completed working plans of the forests of the Deoban range, including the Chakrata fuel forests and some other working circles of deodar and fuel forests and another working plan for the Jaunsár divisional chír forests, the field work of which was nearly completed during the year. Forest Ranger Keshavanand assisted Mr. Hearle in valuing and describing the forests of the Deoban range and the chír forests.

Government has ordered the extraction of the dead wood from the Mandáli forest, and the cultural operations proposed in the Mandáli working plan are being carried out in a modified form, consequent on the postponement for 20 years of the complete working of the forest.

By the end of the current year, all the forests of the Circle in working, except those of the Saharanpur district, will be subject to regular working plans.

Measurement of growing trees

13. Measurements of growing trees, sál and others, in the Dún and Saháranpur, and oaks in Jaunsár, have been continued in the sample plots.

CHAPTER III.

Protection and Improvement.

Establishment

14. The following table shows the amount sanctioned for the permanent forest establishment, and the actual expenditure on the permanent and temporary establishments during the year —

Subordinate staff.

Division.	*Permanent.*		*Temporary*	Remarks
	Maximum sanctioned by Government of India	Actually expended.	Actually expended.	
Direction ...	*180	...	.	* Unappropriated.
Dehra Dun ..	9,342	6,984	1,166	
Saháranpur ..	7,338	5,823		
Jaunsar ..	8,196	6,519	1,815	
Total ...	25,056	19,326	2,981	
Previous year ...	20,520	13,896	7,846	

The total, Rs. 22,307, exceeds last year's expenditure, Rs. 21,742, by Rs. 565, which is due to the improved permanent establishments of the circle gradually coming into force.

15. *Rangers.*—There are at present four Rangers in the circle, and they have all done good work during the year.

16. The following is the list of men in the circle who attended the school course

Name	Rank	Pay	Remarks
2nd year's Rangers' course		Rs	
Madho Parshád	Temporary Forester, 5th grade	20	Obtained Ranger's certificate on 19th March, 1888
Vernacular course.			
Madho Rám	Forester, 5th grade... ..	20	Obtained Forester's certificate on 5th December, 1887
Akbar Ali	Forester, 3rd grade	30	Still at the School

Parbhu Lál, Forester, Saháranpur Division, also obtained the Forester's certificate on the 25th January, 1888, for which he failed last year.

Two temporary Foresters on Rs 20 per mensem, who are educationally qualified to attend the Rangers' course, were passing a period of practical probation in the Plains Divisions prior to joining the school next July.

17. *Protective Staff.*—The Divisional Officers, as a rule, speak well of their Foresters.

An exception must be made in the case of Anantrám, Forester, in charge of the Jumna river range, who has since the close of the year been suspended for suspicious practices.

One of the range officers in Saháranpur, Forester Alamdár Husain, has not worked satisfactorily, and another Forester, Parbhu Lál, allowed a large area of the sál forests to be burned by delaying the firing of his fire-lines.

As regards Forest Guards, it is probable that passing an elementary technical examination would furnish more useful men than the Middle-class examination, and

the latter qualification for promotion for Forest Guards has been declared no longer necessary by order of Government since the close of the year.

There can be no doubt that after a provision of technically educated Rangers and Foresters has been made, that to enable them to manage their ranges properly, the Forest Guards' technical instruction must be attended to.

18. *Students of the Forest School employed in the forests.*—The Students of the Forest School, under the Deputy Director, as usual, materially assisted in the work of the circle, and four Students from other Provinces or States were attached to the divisions for preliminary practical instruction, preparatory to following the regular course at the school.

Besides the above, Forest Ranger Hira Singh was deputed from the Panjáb to study fire-conservancy in the Saháranpur Division.

Office Establishment.

19. The following statement shows the amount sanctioned during the year for the permanent office establishments by the Government of India and the amount actually expended on it and on the temporary office establishment.

Division.	*Permanent.*		*Temporary.*	Remarks.
	Maximum sanctioned by the Government of India.	Actually expended during the year.	Actually expended during the year.	
	Rs.	Rs.	Rs.	
Direction	2,724	2,704	1,091	
Dehra Dún	2,160	2,083	423	
Saháranpur	1,416	1,343	267	
Jaunsár	2,112	2,009	319	
Total ...	8,412	8,139	2,100	
Previous year ...	7,512	7,309	2,433	

The increase of Rs. 890, as compared with last year, is due to the newly-sanctioned establishments being only in force during a portion of the previous year.

Suitable quarters have been built at Chakráta for the office establishment, which now remains there throughout the year.

A good office building is required in Dehra for the Dehra Dún and Saháranpur offices.

The Head-clerk of the Direction office, Bábu Kasheswar Mukerji, and the other office establishments, have all worked satisfactorily.

The Jaunsár office was inspected in June, 1887.

General protection and forest law.

20. The result of prosecutions before Magistrates are given in the following table :—

Year.	*Convictions.*		*Acquittals.*		Pending.
	Cases.	Persons.	Cases.	Persons.	
Average of previous 4 years	14	30	6	20	...
1886-87	8	18	4	19	..
1887-88	3	6	1	2	1

The cases included the following —

Injury to forest by fire ...		1
Unauthorized fellings, &c	...	2
Other offences		1
	Total	4

The acquittal was in the Saháranpur Division of a man accused of unauthorised felling.

Mr. Moir reports that the punishment inflicted last year for river-side sleeper thefts seems to have been effective, as, though last year's vigilance was maintained, no cases have been reported.

The *other offence* was a breach of the Jumna river rules and was still pending at the close of the year.

21. *Cases compounded under section 67 of the Forest Act.*—The following shows the results of cases compounded under section 67 of the Forest Act.

Year	*Cases compounded.*			*Cases enquired into and dismissed*		Remarks
	Cases.	Persons	Amount of compensation in rupees	Cases	Persons	
Average of previous 3 years,	90	146	930	12	47	
1886-87	129	283	737	8	31	
1887 88 ...	89	203	1,075	13	40	

The cases were classified as follows :—

Injury to forest by fire		9
Unauthorised fellings, &c.		53
Illicit grazing		27
Other offences ...		13
	Total ...	102

The 89 cases compounded were distributed as follows :—

	No of cases	*Compensation received*	*Paid as reward*
		Rs	Rs
Dehra Dún ...	28	217	7
Saháranpur	32	636	61
Jaunsár	29	222	8
Total	89	1,075	76

22. *Relations between the people in the villages on the borders of the forests and the forest officials.*—There has been no friction between the villagers and forest officials in Jaunsár, where the people are rapidly learning to saw up their own free grants of deodar, nor in Dehra Dún, except in the Málkot forest, where the hill-people wish to lop semla trees, which are valuable for gum, for cattle fodder.

The Collector of Saháranpur has suspended for one year, or during good behaviour, the grazing of certain villagers near the Western Siwáliks for causing incendiary fires in May and June, 1887.

In the Central Range, Saháranpur, the villagers have assisted most loyally in extinguishing fires and were rewarded by grants of house poles and thatching grass. The practice of cutting and storing grass for winter fodder is extensively followed in Jaunsar and permission to do so is accorded, except for special reasons, from all the closed forests and is highly appreciated, the grass being stacked on trees near the villages.

The zemindári forests in some parts of Jaunsár are being rapidly denuded, hundreds of large bán oak trees being killed by excessive lopping, while the undergrowth is kept down to a few feet of the ground by the goats.

As forest is an essential for hill-people, some attempt should be made to protect those forests which are not at present in any way under the control of the Forest Department

There is plenty of summer fodder on the bare grassy hillsides, but the grass on them dies in the cold weather, and easily accessible demarcated village forests for fuel, building material, leaves and grass, that may be cut and stored for winter supplies, are required wherever the villages are remote from Government 2nd class forests.

23 *Shikáris and wild animals*.—A man-eating tiger still frequents the Ráma Sarai Valley in Tehri-Garhwál, any although a reward of Rs 500 has been offered for his destruction, he is still at large and has killed a number of people during the year and has practically closed the Khunigád road to traffic. The Deputy Conservator employed two shikaris to track and shoot him, but to no purpose, the beast being exceedingly cunning, abandoning a locality where he has made a kill for some time before making another It is supposed that the extensive fire in the Chátra chír forest was purposely lighted to drive out this tiger.

In the Dún forests stags are getting scarce, and wild dogs are numerous on both sides of the Siwáliks

Wild elephants are numerous on the south of the Siwáliks, and besides greatly injuring bamboo clumps, have killed several men during the year, going down into the cultivations during the monsoon.

Government could surely make a revenue by leasing the right to hunt elephants, as is done every year in Assam.

Forest fires

24 The statements regarding protection from fire are given separately for forests in British territory, including the leased forests in the jághirs of Raiengarh and Dadi, and for the leased forests in Tehri Garhwál, as the areas of the latter are only *estimated*, no accurate survey having been as yet effected of their entire area.

Fire statement.

Division.		Area attempted to be protected	Percentage to entire area.	Failures.	Successfully protected.	Percentage of failures to area attempted	Cost during year	Area of protected forest open to grazing throughout the year
		Acres		Acres	Acres		Rs	Acres
Debra Dún	Average of previous four years	75,495	42 5	593	74,959	71	4,435	
	1886 87	1,48 210	80 4	12 787	1,35,423	8 63	3 790	1,02 097
	1887 88	1,57,213	88 78	4,037	1,53,176	2 56	3,491	1,07,352
Sahárunpur	Average of previous four years	61,769	32 6	3,234	58,535	5 2	3,234	
	1886 87	1,43,259	75 97	23,876	1,19,383	16 67	2,819	70 909
	1887 88	1,43,259	75 97	13,907	1,29,652	9 40	2,203	70,909
Jaunsár, British territory	Average of previous four years	48 380	46 16	1,089	47,281	2 27	948	
	1886 87	53,096	51 13	723	52 373	1 36	1,015	
	1887 88	53,224	51 28	1,089	52,135	2 04	1,196	30,000
Do (leased) for ests in Tehri Garhwál	Average of previous ir years ..	29,036	99 1	192	29 444	6	400	.
	1(87	44,115	100	310	43,805	7	682	
	188. 88	42,685	100	25	42,660	·06	563	21,568
Total	Average of previous four years	2,15,280	42 95	5 061	2 10,219	2 3	9 097	
	1886 87 ...	3,88,680	75 67	37 096	3,50,984	9 69	8,306	2 38 644
	1887 88	3,06,381	77 4	18,758	3,77,623	4 72	7,353	2,38,829

The maps attached to this report and appendix E show the extent and position of the areas protected and burned during the year.

It will be seen that the area we have attempted to protect within British territory has increased during the year from 344,565 acres last year to 353,696

acres, or by 9,131 acres, being 9,003 acres in Dehra Dún and 128 acres in Jaunsár, whilst in the leased forests the area has been decreased from 46,355 acres to 42,685 acres, or by 3,670 acres, of which 2,240 acres in Dehra Dún have been ceded to the Rája of Tehri, and 1,430 acres in Bashahr to the Panjáb Government.

The whole of the leased Tehri forests are now protected from fire, whilst the entire protected area for the circle comprises 3,96,381 acres, or 77·4 per cent. of our whole area of reserved forests.

New areas protected

The new areas protected for the first time are as follows :—

Division	Forest or block	Area		Remarks
		Block	Division	
Dehra Dun ...	Rámgarh forest	80		Sál forest.
	Bulawála do. ..	40	.	Sissu.
	Birbhadar do.	50		Chiefly on account of Semla gum and to prevent erosion of the hillsides
	Málkot do.	7,106		
	Thánu do. ..	1,727	9,003 Sál.	
Saháranpur				
Jaunsár .	Dánda block	143	.	Oak fuel forest
	Bagár do ...	300	...	Kail for resin-tapping
	Sangrori do.	300		Chír
	Duraun do. .	200	...	Chír.
	Dádi forest ...	100	1,043	

Protection of the following areas has been abandoned :—

Division.	Forest or block.	Area.		Remarks
		Block.	Division.	
Dehra Dún ...	Sheopuri forest ...	2,240	2,240 Sál.	Ceded to Raja of Tehri
Saháranpur ...				
Jaunsár	Dalyána block	400	...	Grass land given up for villagers.
	Matkángra ditto ...	15	..	Ditto ditto.
	Damchhkhara ditto ...	250	...	Chír forest too remote for export
	Ditto	250		
	Bashahr forests*	1,430	2,345	*Ceded to the Panjáb Government

Of the forests protected from fire 238,829 acres are open to grazing throughout the year, so that this important work is carried on with very little interference with the neighbouring villagers, who except in the Western Range of the Saháranpur Division look upon fire-conservancy as a matter of course, as all large blanks and inferior forest are burned off annually to serve as grazing grounds where not required for thatching grass, whilst in Dehra Dún fire-protection is already largely undertaken by owners of private sál forests.

In Dehra Dún, it is really only important to exclude grazing from areas of recent fellings until the new shoots of the trees are sufficiently strong to be uninjured by the cattle, and the villagers assist in protecting our forests from fire.

In Saháranpur, where all the hill tracts are protected from fire, there were large conflagrations in the Western Sewálik forests in May and June of 1887, and in consequence the Collector has ordered the supervision of all grazing within certain forests over an area of 21,401 acres for one year, or according to the behaviour of the people.

Incendiary fires also occurred in these forests in April and May, 1888, but were neither so severe nor so persistent as in the previous year, and it is evident that the Collector's action has had good results.

In the other ranges of the Saháranpur Division the people willingly came forward to assist in extinguishing accidental fires, and were rewarded by free grants of house-posts and other material. In the Central Range, Saháranpur, the Range Officer got all of his fire-lines cut without payment for the value of the thatching grass on them.

Cost of protection.

Division		Area successfully protected.	Length of fire-lines.	Cost of					
				Clearing lines	Burning lines.	Fire guards	Extinguishing fires.	Total	Per acre.
		Acres	Miles	Rs	Rs.	Rs	Rs	Rs	pies
Dehra Dún ..	Previous eight years ...	50,221						3,946	15·08
	1886-87 ...	137,063	282	915	873	1,770	232	3,790	5 37
	1887-88 ...	153,176	325	739	709	1,812	131	3,301	4 24
Saháranpur .	Previous eight years	38,216						2,335	11 73
	1886-87 ...	119,383	90	452	159	1,780	428	2,819	4·53
	1887-88 ...	129,652	116	347	63	1,507	226	2,203	3 26
Jaunsár ..	Previous eight years ...	68,078		..				1,275	3 59
	1886-87 .	96,178	320	276	1,221	118	82	1,697	3 39
	1887-88 ...	94,795	382	306	1,132	128	193	1,759	3·56
Total ...	Previous eight years .	156,510		...	...	...	...	7,556	9 25
	1886-87 ...	353,324	692	1,643	2,253	3,668	742	8,306	4·55
	1887-88 ...	377,623	773	1,392	1,904	3,507	550	7,353	3·73

It will be seen that the cost per acre has been further reduced in Dehra Dún and Saháranpur, having slightly increased in Jaunsár, whilst the cost for the Circle, 3·73 pies per acre, is now probably as low as in any Circle in British India.

Failures.

The failures this year comprise 18,758 acres as against 37,696 in 1886-87, and 4,483 the average for the preceding six years.

The average percentages of failures to whole area attempted are—

Average of six years	2 57
1886-87	9 69
1887-88	4 72

A statement showing the area and position of each fire reported and its probable cause is given in appendix E, and it need only be stated here that the heavy fires in the Western Range, Saháranpur, were probably due to incendiaries and the fire in the Jumna Range, Dehra Dún, spread from them across the Siwáliks.

The heavy fires in the Central Range, Saháranpur, over 4,819 acres, are due to the burning of fire-lines being deferred too late in the season, and to mismanagement of the Tira coppice fellings, and these fires have done serious damage in some of the better tracts of forests in the Saháranpur district.

The heavy fires in the Deota Range Jaunsár, were in chír forest, which is difficult to protect, and are supposed to be due to have been lighted by villagers to drive out a man-eating tiger. Mr. Moir states that the Rana of Taróch borrowed the services of a Forest-guard to teach his men how to protect his deodar forest from fire, and that unsuccessful attempts to protect the valuable Tehri chír forests on the Tons and Pábar rivers were also made by the State forest officials.

In accordance with the expressed wish of Government, the Superintendent of Dehra Dún prohibited fires on the hillsides below Mussoorie, but no records of the result are available.

Grazing

25. The area of forest open to grazing throughout the year in the circle is as follows :—

Division	Protected from fire	Unprotected.	Total
Dehra Dún	107,352	26,349	133,701
Saháranpur	79,909	45,249	125,158
Jaunsár	51,568	53,962	105,530
Total ...	238,529	125,460	364,389

The changes since last year are due to an extension of fire-conservancy in the Dún, and to the exclusion of 70 acres in the Kurwa forest of Jaunsár, owing to the damage done by the villagers.

The following statement shows the number of beasts grazing in the forests:—

Kind of animals.	*Number of beasts grazing.*						Full rates for each class.	Remarks.
	Free.	At half-yearly rates	At full yearly rates.	At rate per month.	At rate per journey.	At rate per day.		
Elephants ...	...	...	...	...	...	...		
Camels ..	...	...	...	...	6,803	...	Rs. two per annum, four annas per journey.	
Buffaloes ...	257	1,248	7,204	10	43	...	One anna per day, eight annas per annum, eight pie per journey.	Gujars' buffaloes charged @ Rs. 1-8-0 in Jaunsar per annum.
Cows and bullocks.	11,809	9,780	45,419	161	124	...	Four annas per annum, four pies per journey.	
Dak horses, &c.	...	...	...	2,023	...	...	Eight annas per month.	
Ponies and mules.	...	16	12,108	305	83	...	Two annas per annum, four pies per journey.	
Sheep and goats.	19,834	680	16,794	...	323	25	One anna per annum, three pie per journey.	
Total ...	31,900	11,674	81,525	2,499	7,466	25	...	

In Dehra Dún, it appear that the orders of Government for a counting of the cattle to be made once for three years has not yet been carried out, annual countings having been hitherto made, and the Superintendent of the Dún wishes this year's counting to be binding for three years.

Collection of grazing dues by the tahsíl in Dehra Dún acts very well, only Rs. 143 being outstanding at the close of the year.

Now that it is proposed to protect all the Government sál forests in the Dún from fire, which is already done for many of the private sál forests, the Conservator has directed that all large grassy blanks within the reserves in the Dún and Saháranpur Divisions, should be demarcated and burned annually as grazing-grounds.

Experience has shown from the Palási tappar in the Tháno forest, which has been so burned since 1882, that such areas become gradually free from coarser grasses and the quality of the grass improves greatly when constantly grazed, so that in time there is hardly anything left to burn on them, the danger to the reserves from burning them being thus minimised.

In the Saháranpur district the collection of grazing dues does not work smoothly as in the Dún there being Rs. 8,161 outstanding at the close of the year, whilst Rs. 6,253 was outstanding on 1st April, 1887. In April, 1886, only Rs. 979 was outstanding, this being the first year of the present system, which clearly does not work well.

This is said to be due to complaints by the villagers of inexact enumeration of the cattle, which delay the final reports of the tahsíldárs.

The question of grazing within the Saháranpur forests will be considered carefully next cold weather in connection with the land settlement now in progress in the district.

The Collector of Saháranpur has ordered the exclusion of the cattle of the following villages from the Badshahibágh and Khára blocks of the Sewáliks for one year or more, depending on their good behaviour, from 1st April, 1888:—

Rahna.	Marápur Ruppur.
Janipur.	Muhamamdpur Shafipur.
Maganpur.	Kasumpur.

This is a punishment for the serious and repeated incendiaries during the hot weather of 1887.

In the Jaunsár Division 70 acres of the Kurwa forest have been closed to the villagers, owing to the abuse of lopping privileges. The same villagers had carefully protected an adjoining piece of village forest from similar damage.

The Jaunsáris pay no grazing dues, but in calculating the amount of their rent under the recent land settlement, the number of cattle and sheep grazing in the Government forests were charged for at half the rates prevalent in the Dún.

As the working plans officer has reported that the number of their flocks and herds are rapidly increasing, Government has ordered that countings should be made of the cattle, so that the forests should not be burdened with unlimited free grazing.

The Gujars' buffaloes, on proceeding to the hills in March, 1888, gave little trouble, owing to the assistance of the police guard at Kálsi. Only those allowed to graze in Government forests proceeded along the Chakráta-Deoban road, whilst those going to graze in the Keuntal and Jubal States, passed along the Tons valley, where they can do little or no damage.

The number of buffaloes for which passes to the hills were issued at Kalsi is as follows :—

Grazing in Native States	...	2,455
Ditto Government reserves	...	425
Ditto Chakráta cantonment	...	101
Total	...	2,981

It may be noted here that the rates charged for grazing in the School Circle are only ¼th to ⅓th of those in force in the Lahore district, Panjáb.

Natural reproduction.

26. There is little to add to the remarks of previous years regarding natural reproduction, but it has been proved by experience in the higher fir forests of Jaunsár that spruce requires more light and better drainage than silver fir; germinated spruce seedlings damping off in the depressions but developing on the more exposed ridges.

The seeding of all the conifers in Jaunsár failed during the year, whilst that of oaks was abundant, but most of the acorns were attacked by grubs.

Artificial reproduction.

27. *Regular plantations.*—The only regular plantation in the circle is that in the Pathri Forest, Saháranpur, 80½ acres, on which Rs. 33 was spent during the year. Nothing was done in these plantations beyond general protection and the thinning of one compartment.

The sissu of which the plantation is chiefly formed is of poor quality, and evidently the soil does not suit it.

As irrigated plantations are costly, an attempt is now being made to sow up broadcast ploughed-up areas, and this was experimentally tried on two acres of the closed forest, the area being sown with *Ailanthus, celtis,* kikar, padal, and karhá, all trees which stand damp and frost.

The seedlings came up well and 465 plants chiefly of pádal and karha survived the frost, an enumeration being made at the end of the frost, and another at the end of the hot season, when 424 plants survived the heat and drought.

28. *Cultural operations.*—The results of the cultural operations are as follows, as regards planting and sowing:—

Division.	Area in acres.				Charge of the year.	Total charge up to 31st March, 1888.	Remarks.
	Area on 1st April, 1887.	Added during the year.	Excluded during the year.	Area on 31st March, 1888.			
					Rs.	Rs.	
Dehra Dún ...	82½	91½	52½	121½	717	6,514	
Saháranpur ...	39½	6½	...	46	369	4,908	
Jaunsár ...	1,430	110	...	1,540	1,601	23,453	
Total ...	1,552	208½	52½	1,707½	2,687	34,875	

In the Dún 5¾ acres were planted out at a cost of Rs. 198 with 12,000 seedlings of tún and *Broussonetia*, near the Phandowála bungalow. They at first succeeded, but afterwards died off badly.

In the Rámgarh plantation 8,400 sál, sain and tún plants were used to fill up vacancies at a cost of Rs. 181, including the transplanting of 1,000 bamboo plants from Dehra into a nursery at Rámgarh; 5,900 bamboos were planted out near Parduni in the Johra block at a cost of Rs. 338, and succeeded fairly, but half the plantation was burned.

The new working plan only prescribes continuance of bamboo planting in the Johra block, but tún is a valuable tree and is getting scarce, and some attempts will be made to sow it in the new coppices along the Suswa, and to plant it on a small scale at Phandowála, whilst the area planted at Rámgarh will be stocked with bamboos, if seed be available.

In the Saháranpur Division it has been proved by several years' experience that direct sowing or planting of sál will not succeed against the frost and drought, and our efforts will therefore be confined to attempting to discover the best species to fill up small blanks and as a nurse for sál against frost and drought.

As stated before, the larger blanks will all be burned to serve as grazing-grounds.

The expenditure during the year was Rs. 369, chiefly for protection and experiments, of which the only successful one was ploughing up an area of 2½ acres in the Ganjaban forest and sowing it with ailanthus, mulberry, and *Kydia calycina* (pula) where the ailanthus came up well.

Planting work in Jaunsár consisted in the addition of 110 acres, chiefly of deodar at a cost of Rs. 1,601, and most of it in the Bediár, Deota and Cháchpur forests.

Planting is now successfully carried out in Jaunsár, 1,540 acres having been planted chiefly with deodar at a cost of Rs. 23,453, or Rs. 15-4-0 per acre.

Sowings are not so successful, the work being done in April, as deodar seed does not keep well till the rains.

Blue pine seed when sown in April is liable to be eaten by pheasants. Hence sowing in November will be tried, though there is a difficulty about labour during the month, and early falls of snow sometimes occur.

Drainage of existing plants has been carefully attended to.

29. *Chakráta Cantonment block.*—Owing to the distance of the fuel forests which supply Chakráta, it is necessary that the blocks of forest surrounding the cantonment should be carefully managed so that they may partly pay for the station roads, &c., and supply fuel and grass to the residents; and Mr. Hearle has drawn up proposals for their management with the consent of General Sir G. Greaves, K. C. B.,

and the Cantonment Committee, which, after approval by the Quartermaster-General, will be brought into force.

In the meantime the Divisional Forest Officer continues to manage the two blocks, Sutoli and Lurli, and during the past year in Lurli, at a total cost of Rs. 168, 55,000 deodar, kail and exotic pines were planted out over 10 acres and 2,650 pits sown with deodar and kail, which failed, and were resown with bán oak; 18,500 old pits were also resown with kail, deodar, bán oak and chír.

The plantings have been successful, but the sowings not so good as usual

In the Sutoli block, at a cost of Rs. 41, 3,080 deodar plants were planted in the area burned in 1887, and 1,318 pits resown with chír.

30. *Landaur Cantonment plantation.*—Colonel Ilderton, the Commanding Officer at Landaur, reports as follows regarding the plantation in the cantonment:—

"During the rains of 1887, 1,500 bán and 3,000 deodar plants were transferred from the nursery in pits 20 feet apart. 16 lbs of chír seed was sown, but the seed was reported to be old, and the seedlings died off; 10 lbs of deodar seed was sown in nursery beds in August, and the seedlings appear to be vigorous.

"The expenditure during the year, including pay of Forest-guard, was Rs. 318, leaving a balance of Rs. 87 from the amount advanced by Government for replanting blanks in the cantonment."

31. *Chakráta forest garden.*—This garden was connected with the Sutoli block by a two-foot inspection path.

The water channel was lengthened by 493 feet and 1,625 feet widened and repaired. For the troops a large supply of vegetables was grown, and the tomatos and cabbages were very fine; but after all the outcry for fresh vegetables and the fear of scurvy spreading, the Commissariat declined to purchase them at the price of potatoes; and this after declaring that the forest garden was the only place in Chakráta which could produce sufficient fresh vegetables. The soldiers were therefore encouraged to purchase them from the garden, and this plan worked fairly well but a considerable supply was left in hand at the close of the year and was sent down to Dehra, the sale covering the cost of carriage.

One thousand five hundred cubic feet of manure was collected for the next year's work.

A fair crop of peaches, cherries, plums and a few apples were obtained from the fruit trees, which are just coming into bearing. There are 500 old trees, which were carefully manured and pruned, whilst 250 more were obtained from Ranikhet, and planted out successfully, and 100 more obtained locally, so that there are now 850 fruit trees in the garden.

The peaches, apricots, plums and cherries are equal in quality to European fruit, and it is hoped that this garden will serve as a centre from which grafts may be distributed amongst the Jaunsáris.

Eight hundred and sixty deodar trees and 100 fruit trees were given away to the villagers during the year. Besides the fruit trees, attention is paid to the growth of exotic conifers and other trees, of which there are 3,000 of about 50 species in the garden. These are being planted out in groups.

Many fine exotics, such as *Cryptomeria japonica*, various pines, English and Turkish oak, and American and New Zealand plants might be planted out in cantonments, but the committee decline the plants for want of funds to plant them out.

The cost of the garden during the year was Rs. 1,485, whilst the sale of vegetables and fruit realized Rs. 338.

As the garden gets older the revenues will increase, and much of the expenditure was for new beds and repairs to the water channel, which will not recur.

32. *Climber-cutting.*—The following statement gives the areas cleared of climbers in the plains forests :—

Division.	Area in acres.			Charges.	
	Up to 31st March, 1887.	During past year.	Total.	During year.	Total to 31st March, 1888.
				Rs.	Rs
Dehra Dún	23,902	4,184	28,086	459	2,190
Saháranpur	1,600	...	1,600	*Nil.*	64
Total ...	25,502	4,184	29,686	459	2,254

The charge of Rs. 459 in the Dún was really for 4,856 acres, or at the rate of Rs. 61 per sqare mile, 672 acres in Tháno having been cut over a second time.

As the rate charged in the case of the Tirsál forest, Rs. 95 per square mile appeared excessive, orders have been given for careful work to be done under supervision in each range over a measured area, and the results reported.

No climber-cutting was done in the Saháranpur Division during the year.

33. *Ringing inferior species, &c.*—The following statement shows the work done :—

Division.	Area in acres.			Charges.	
	Previous years.	Present year.	Total.	Present year.	Up to 31st March, 1888.
				Rs.	Rs.
	Cutting back inferior sál.				
Dehra Dún	3,340	1,305	4,645	834	2,836
	Ringing kail, &c., above deodar advance growth.				
Jaunsár	1,457	50	1,507	15	241
	Ringing fir, &c., to encourage deodar reproduction.				
Ditto	685	...	685	.	62
Totals ...	5,482	1,355	6,837	849	3,139

As the ringing of kukat trees over sál advance growth is done at the time of marking, it is distinct from the cutting-back of injured and inferior sál poles, which follows the fellings, and the heading of the work in the Dún has therefore been changed since last year.

It would be very useful if the ringing of kukat were done at the time of cutting the climbers, *i.e.*, two years before the fellings, the difficulty being the want of proper supervision to execute this work, whilst climber-cutting can be left to Forest-guards.

It is a matter of regret that only 50 acres of ringing of inferior species over deodar advance growth was undertaken in the Jaunsár Division during the year.

The Pahári Forest-guards are already good at deodar planting, and should be competent to execute kail thinnings without much supervision from Range officers.

No work was apparently done in the Jaunsár Division in the way of ringing inferior trees *before fellings* to encourage deodar reproduction. It was ordered that, where necessary, this should be done at least two years before the fellings.

34. *Reproduction in coppiced areas.*—There are at present only two areas managed on the coppice system, but more will be added under the new Dehra Dún working plan.

The Tira fuel coppice in Saháranpur was unfortunately burned during the year.

The Kurwa oak coppice in Jaunsár has proved very successful, the shoots of 1881 being now 10 feet high ; two acres of the adjoining forest, which has been now closed, were cut back to get strong shoots in exchange for the browsed ones.

Communications, buildings and other works.

35. The following figures give the cost of works in the the School Circle, compared with those of the previous nine years since 1878-79, when the Circle was formed :—

	Roads and bridges	Buildings	Other works	Total
	Rs	Rs	Rs	Rs
Expenditure of previous nine years	75,847	1,04,310	6,061	1,86,227
Ditto of 1887 88	7,539	16,479	490	24,508
Total for ten years	83,386	1,20,798	6,551	2,10,735
Average per annum	8,339	12,080	655	21,074

The total amount spent during the last ten years is distributed as follows in the divisions :—

Division	*Roads*		*Buildings.*		*Other works.*	
	Amount	Percentage of gross expenditure	Amount	Percentage	Amount	Percentage
	Rs.		Rs		Rs	
Dehra Dún	29,209	6 46	29,144	6 45	1,164	23
Saháranpur	3,719	1 8	8,725	4 24	1,920	94
Jaunsár	40,939	3 13	80,932	1 92	1,752	11
Direction	499	14	52,297	14 5	1,715	47
Total	83,386	3 19	1,20,798	4 63	6,551	25

This statement is given in accordance with paragraph 13 of the Government review of last year's report. I have no reason to consider the expenditure on roads and buildings excessive except in the Dun, where greater economy might have been shown.

Here the amount to be spent annually in future is fixed in the working plan at Rs. 6,000 on roads and buildings, and their necessity has been fully discussed in a letter to Government from the Conservator.

The working plan makes no provision for Rangers' houses, which are required in several ranges.

In the Saháranpur Division it is intended gradually to make the Hardwár-Khára road a good cart-road, and one of two export roads at right angles to it should also be improved. Only one officer's rest-house at Kasúmri is now required in the division, but three Rangers' headquarters houses are required.

A Ranger with a house for his wife and family at the headquarters of his range serves Government in quite a different manner from the old class of underpaid Foresters in charge of ranges, whose time was chiefly spent in intrigue and chicanery.

A good deal of building is now going on at Chakráta at the officer's headquarters bungalow and offices, but for this a rent will be paid ; and except for a rest-house at Kálsi, to be paid for out of balance of river dues, no more officers' rest-houses are at present required in that division.

Export paths and buildings must of course be constructed as they are required, when new forests are opened for fellings.

The Divisional Officers have not reported on the cost of probable future requirements of works in their divisions, and to call for such a report now would delay the submission of the circle report, so that a separate report on the subject will be submitted.

36. *Roads and bridges.*—The following statement shows the work done during the year and the length of road and number of bridges and culverts in the Circle :—

Class of work	*Dehra Dún.*			*Saháranpur*			*Jaunsár*			*Circle*		
	New works.	Old works.	Cost during year.	New works.	Old works.	Cost during the year.	New works	Old works.	Cost during year	New works.	Old works.	Cost during year.
	M ch	M ch	Rs	Ch	M ch	Rs	M ch	M. ch	Rs	M ch.	M. ch	Rs
Roads 10 feet to 20 feet.	12 49	253 74	2,079	71	88 78	826	.	...	.	13 40	342 72	3,505
Path 6 „	5 0	0 0	238		9 40	32	...	127 0	2,349	5 0	142 40	2,920
„ 2 feet to 4 feet.	8 0	4 60	300	.	0 11	1	4 57	329 0		12 57	333 71	
Total .	25 40	264 54	2,217	71	98 49	859	4 57	456 0	2,349	31 17	819 23	*6,482
	No	No		No	No		No	No.	132	No	No.	
Main bridges ...	.	.	.	.	...		1		..	1	...	132
Minor bridges and culverts.	5	..	813	3	3	162	.	...	...	8	3	975
Miscellaneous ..	..					..	...	...			..	.
Total	.	..	813			162			132		..	1,107

* Rs 7 has been added to total for work in Directon Division.

The principal work of the year has been the construction of nearly 31 miles of new roads and paths, chiefly in the Dún, at a cost of Rs. 1,832, and repairs of 819 miles of old roads at a cost of Rs. 4,593.

Rupees 1,107 has been spent on culverts and minor bridges, which greatly facilitate traffic.

In the Saharanpur Division, the Hardwár-Khára road from the Ganges to the Jumna is being gradually improved into a good cart-road, and some useful bridges and culverts were constructed and heavy gradients cut down.

In Jaunsár new roads cost Rs. 560, repairs to old ones Rs. 1,789, and to bridges Rs. 132.

Last year's repairs cost Rs. 1,122, and the enhanced cost during the present year is due to constructing retaining walls on the Chakráta-Deota road and metalling some export roads.

Besides the departmental expenditure on roads, the following sums were received by the divisional officers from the district funds and expended on repairs of roads :—

		Rs	
Dehra Dún		113	Repairs of 4th class district roads
Saháranpur	,	302	Hardwár-Khára road
Jaunsár	. ..	400	Chakráta-Tiuni road.
	Total ..	815	

37. *Buildings.*—The expenditure on buildings may be thus distributed :—

	Average of previous three years	1887-88
	Rs	Rs.
Repairs to existing buildings ...	3,633	5,743
Construction of office bungalows	338	..
Ditto of officers' rest-houses	2,481	6,427
Ditto of Rangers and Foresters' houses ...	1,315	55
Ditto of Forest guards' chauks and other buildings ...	1,656	4,244
Total ...	9,318	16,479

The expenditure incurred was distributed as follows :—

Direction.

	Rs.
Repairs and alteration of main buildings	268
Construction of a corrugated iron shed for carpenters and timber godown ..	1,188
Total ...	1,446

Dehra Dún.

	Rs.
Repairs to existing buildings	1,536
Completion of Phandowála forest rest-house	2,383
Out-houses at Lachiwála	96
Small rest-houses at Parduni and Rámgarh	371
Rangers' houses	27
Forest-guards' chaukis	746
Total ...	5,159

The Phandowála rest-house is substantially built, and will be extremely useful when the Forest School is out in Camp in the Dún ; owing to carelessly prepared estimates, however, the expenditure on it exceeded them by Rs. 1,868.

In the Saháranpur Division the work done is as follows :—

	Rs.
Repairs to existing buildings	985
Construction or extension of Rangers' or Foresters' houses	55
Ditto of Forest-guards' chaukis	286
Total ...	1,326

In the Jaunsár Division.—Completion of rest-houses for students of the Forest School, each containing 20 rooms at, —

	Rs.
Mandáli and Katián	1,060
New divisional officer's house and out-houses at Chakráta	4,028
Clerk's house ditto	446
Repairs and additions to existing buildings	3,014
Total ...	8,548

Rs. 7,000 has been sanctioned by Government for the construction of an officer's residence at Chakráta with suitable clerks' houses and out-houses after plans prepared by Mr. Hobart-Hampden and the work has made fair progress, the new clerks' houses being completed, while the divisional officer's house was ready before the rains.

The charges for repairs were Rs. 3,014, and included repairs to office buildings at Chakráta, Deoban and Deota rest-houses, and and some miscellaneous work. A complete list of the buildings in the circle is given in appendix F.

38. *Other Works.*—The total expenditure for other works was Rs. 490; expended as follows :—

Direction Division.

Repairs.

	Rs.
Drains and culverts in School compound	195

Saharanpur Division.

Levelling Camping-ground and making wells	100

Jaunsar Division.

Clearing drains and repairing retaining walls of compound	114
Water tank at Deoban	39
Levelling camping-grounds, &c.	42
Total ...	490

CHAPTER IV.

Yield and Working.

General account of operations.

39. The following table gives the total number of trees felled and their average contents.

Year	No of trees	Cubic feet.	Average contents in cubic feet
Average of three previous years	36,071	12,95,192	35 9
1886 87	47,856	6,50,302	13 6
1887-88	85,313	12,08,807	14 87

The largely increased number of trees felled during the year is chiefly due to the increased sales of sál thinnings to purchasers in Dehra Dún, 35,473 as compared with 7,725 last year; also to the increased departmental deodar fellings and fellings of chir by purchasers in Jaunsár, the figures for the two years being :—

	1886-87	1887-88.
Trees felled by Government agency	2,573	4,022
Trees felled by purchasers	1,091	4,882

The increased average cubic contents of the trees felled is due to the larger size of the trees felled in Jaunsar.

The fellings by Government, contractors and grantees compare as follows :—

Year	*Government*		*Contractors*		*Grantees*	
	Number	Cubic feet	Number	Cubic feet.	Number	Cubic feet.
Selections.						
1886-87	4,472	2,88,463	2,496	1,44,980	1,120	76,766
1887-88	5,027	4,30,389	6,744	4,13,027	1,945	1,33,289
Thinnings.						
1886-87	30,148	62,445	9,620	77,648	.	.
1887-88 . ..	29,730	1,44,220	33,037	1,20,754	..	
Clearances.						
1886 87 .					...	..
1887 88 .	3,590	12,382	138	684	102	62

The increased departmental fellings in Jaunsár are partly counterbalanced by diminished fellings in Dehra Dún, whilst departmental thinnings have fallen off in Jaunsár and Saharanpur.

The increased works by contractors have been already explained.

More deodar and other trees have been granted to villagers in Jaunsár.

In comparing the species felled in the two years we have the following :—

Species.	Selection fellings		Thinnings		Clearances	
	1886 87	1887-88	1886-87	1887-88	1886-87	1887-88.
Sál	2,220	879	9,569	15,077	...	675
Sain	17	651	260	329	..	4
Tún	55	26		..		
Sissu ...	171	205	51			
Oak ..	852	842	4,602	38	...	3,050
Deodar ...	1,157	3,084		367		
Chír (P longifolia)	3,103	5,399		63		
Fir and pines		1,386				.
Miscellaneous	423	1,184	25,286	51,293	..	101
	8,088	13,716	39,768	67,707	.	3,830

During the present year, clear, which was formerly shown under fir and pine has been shown separately.

Form B gives the yield in produce for the circle, which is as follows, being valued at Rs 4,84,845 as compared with Rs. 4,47,109 for the previous year.

Description of produce.		1886-87.		1887-88.	
		Quantity.	Value.	Quantity.	Value
			Rs.		Rs.	Rs
Timber	cubic feet	6,16,515	2,51,485	9,78,018	3,99,021
Poles	number	27,872	17,448	23,784	12,388
Saplings	,, ..	32,970	6,701	19,213	3,097
Firewood	cubic feet ...	27,04,547	1,05,200	27,80,850	1,03,646
Charcoal	,, ...	13,020	780	5,472	1,283
Bamboos	scores	1,24,027	14,044	1,02,181¼	10,157
Minor produce	...	...	17,865	...	14,400
Grazing dues	. .		25,610		23,084
Amount of free grazing and fodder grass, &c.			7,491		7,889
	Total .		4,47,109	..	4,84,845

The large increase in produce is all in the Jaunsár Division, being chiefly in the form of railway sleepers.

Appendix C gives a resumé of all the results of departmental operations during the last two years.

The value of the receipts in depôts and the sales have increased since last year by Rs. 21,893 and Rs. 9,074 respectively, and the value of the balance in hand is Rs. 1,34,968, as compared with Rs 90,832 last year.

This represents a large quantity of sleepers in Jaunsár and of timber and drift fuel in the Dún.

Departmental operations.

40. *Trees felled.*—The number of trees felled, as compared with previous years, is as follows :—

Departmental agency.

Years	*Selection fellings*		*Clearances.*		*Thinnings.*		*Totals.*	
	Number.	Cubic feet.	Number.	Cubic feet.	Number.	Cubic feet.	Number	Cubic feet
Average of four preceding years	2,611	2,27,581	433	2,250	8,253	34,433	11,297	2,64,264
1886-87 ...	4,472	2,88,403	...	.	30,148	62,445	34,620	3,50,908
1887-88	5,027	4,39,389	3,590	12,382	29,730	1,44,220	38,347	5,95,991

As regards species, the fellings, as compared with last year's figures, are :—

Species	*Selection fellings.*		*Thinnings*	
	1886-87.	1887-88	1886-87.	1887-88
Sal	1,509	783	2,104	7,807
Sain .	2		..	...
Tún .	55	26	...	
Sissu	1	200	51	246
Deodar .	982	2,812		367
Fir and pine ..	788	571		63
		18		
Oak	737	590	4,003	38
Miscellaneous ..	338	37	23,891	21,149
Total	4,472	5,027	30,148	29,730

The increase in selection fellings is due to the larger number of deodar trees felled for sleepers, 2,812, compared with 982 last year. Fewer sál trees were felled in the Dún, and fewer oak and fir in Jaunsár for the Chakrata fuel supply, owing to the large stock in hand last year being available.

This stock was kept up in order to supply the Commissariat with dry fuel, but as they at once made a claim for a reduction of 8 % on the price for deficient weight, the fuel being supplied in stacked hundred cubic feet, it is found less open to objection to supply them in future with only partially dried fuel, which of course weighs more.

Hence the system of keeping up a large supply of fuel in depôt was abandoned.

The thinnings are about the same as last year, whilst the increase under clearances is due to the clearing of the Thakurpur district waste land in the Dún

Trees marked for works of 1888-89.—Five hundred deodar trees were marked in the Kánga and Jaunsár blocks of the Deota forest for next year's sleeper supply, and 50 fir trees for the Chakrata fuel supply.

In the Dun, heavy markings for next year's sales were carried out in the different Ranges, and it is computed that this marking, as prescribed by the new Working Plan for the Dohra Dún Forests would take one officer 220 days to execute.

41 *Outturn of timber and other produce removed by departmental agency* —The outturn of timber and produce removed by Government agency in the forests, as compared with the previous year, is given below :—

Description of produce.	1886-87		1887-88	
	Quantity	Value	Quantity	Value
		Rs		Rs
Timber, cubic feet	230,037	2,18,250	256,513	2,42 698
Poles and saplings, No	28,185	16,412	24,535	11,028
Firewood, cubic feet	181,093	31,887	441,603	34 506
Charcoal, ditto	8,274	685	4,592	1,153
Bamboos, scores . .	36	15	1½	1
Fodder grass, loads ..	28	6	99	31
Total Rs		2,07,255	..	2,89,917

The figures in the comparative table will be understood from previous remarks, except that the enhanced quantity of timber removed does not correspond with the much larger amount we should expect from a comparison of the trees felled, as shown in a former table.

This is due to the fact that last year 50,000 metre gauge sleepers were purchased, not being taken from trees felled departmentally.

The increased quantity of fuel is due to the large quantity of drift wood collected in the Dun, less fuel having been cut in Jaunsár than in the previous year.

42. *Account of timber and other produce removed from the forests.*—The following table shows the transactions of the last two years :—

Receipts	*Timber*		*Firewood.*		*Charcoal*		*Bamboos.*		*Fodder grass*	
	1886 87	1887-88	1886-87	1887-88	1886-87	1887-88	1886-87	1887 88.	1886-87	1887 88
	Cubic feet.	Cubic feet.	Cubic feet	Cubic feet	Cubic feet	Cubic feet	Scores	Scores	Loads	Loads
Balance in hand at commencement of the year	74,382	1,00,709	60,642	79,321	475	1,439				42
Received in depôts	2,74,984	2,75,318	1 43,563	3,07,293	1,417	2,827				
Received from departmental collection of drift timber	8,435	12,488	23,178	87,173		..	36	1½		
Received from forest and sold locally			9,953	42,677	2,720	1,505	..		559½	99
Received from forests and used by the department,	5,634	4,716		4,550		200				
Total ..	3,63,435	4,02 821	2,42,336	5,21,014	4,612	6,031	36	1½	559½	141
Disposals										
Sold from depôts ..	2,21,867	2,31,518	1,18,082	2,10,637	886	2,264½				
Ditto locally			9,827	42,477	2,720	1505	.		517½	99
Ditto Ganges drift timber,	8,224	9,057	33,104	37,387	.		13½			
Otherwise disposed of	23,545	22,720	1,102	4,584	67	450½	22½	1½		42
Total	2 53,636	2,63,295	1,63,015	2,05,385	3,173	1 282	36	1½	517½	141
Balance at close of year,	1 09,799	1,39,526	79,321	2,25,729	1439	1,749			42	
Grand total	3,63,435	4,02,821	2,42,336	5,21,014	4,612	6,031	36	1½	559½	141

The balance at the close of the year consists of the following items as compared with the previous years :—

Division	Timber.		Firewood		Charcoal		Fodder grass	
	1886-87	1887 88.	1886-87	1887-88	1886-87	1887-88.	1886-87	1887 88
	Cubic feet	Cubic feet	Cubic feet.	Cubic feet.	Cubic feet	Cubic feet	Loads	Loads
Dehra Dún	20,719	13,194	6,984					
Saharanpur ..	2,188	1,946		1,44,270				
Jaunsár	86,892	1,24,386	72,337	81,459	1,439	1,749	42	
Total	1,09,799	1,39,526	79,321	2,25,729	1,439	1,749	42	

This consists chiefly of metre guage deodar sleepers, fuel for Chakráta cantonments, and drift and other timber and fuel from the Ganges river.

43. *Sales to Public Departments.*

Year	Amount of revenue.			Cost to Forest Department			Surplus.
	Due	Received	Out-standing.	Timber expenses A.I.	Quota of other charges.	Total.	
	Rs.	Rs	Rs	Rs	Rs	Rs.	Rs
Average of last seven years, 1879 to 1885-86.	1,26,240	1,25,596	644	70,824	12,804	83,638	42,002
1886-87 ...	2,15,748	2,15,748	...	1,25,408	8,245	1,33,648	82,100
1887-88 ...	2,28,724	2,28,029	695	1,17,898	15,061	1,32,959	90,765

The following were the principal items :—

	Rs.
Dehra Dún—Timber for Ganges Canal	10,646
Fuel for Roorkee Workshops	1,140
Jaunsár—100,055 metre gauges sleepers to the Bombay, Baroda, and Central India, Railway delivered at Delhi	1,68,843
102,241 cubic feet fuel to Commissariat Department, Chakráta ...	21,135

44 Including the sales to Public Departments, the departmental works conducted during the year were as follows :—

Dehra Dun Division.

(1) Collection of Ganges drift timber.
(2) Felling of sissu trees from Birbhadar block.
(3) Clearing of Thakurpur district land.
(4) Improvement fellings in Nágsidh forest.
(5) Ditto in Chandrabani forest.
(6) Ditto in Tirsál forest for Ganges Canal bunds.

Saháranpur Division.

(7) Improvement fellings in Lakarkot forest.
(8) Coppice fellings in Tira.
(9) Sissu thinnings in Pathri forest.

Jaunsár Division.

(10) Sleeper Works—
(a) In Deota forest.
(b) „ Raiengarh ditto.
(c) „ Kotigád ditto.
(d) Floating sleepers to Dakhpather.
(e) Rafting ditto to Delhi.

(11) Export of spruce planks for tea boxes.

(12) Chakráta cantonment fuel supply.

(13) Kurwa bán oak fuel coppice.

A few remarks will now be made on each of these works.

45. *Ganges drift timber.*—This has now been worked satisfactorily by the Dehra Dún Division for the last three years, and nothing has been heard since of the former disputes between neighbouring Forest Divisional Officers and their contractors, and the wholesale frauds which formerly prevailed; so that the wise policy of Government in entrusting this work and that of the control of the Ganges river timber floating to one Divisional Forest Officer, instead of as formerly to three officers, has been clearly proved.

The following table shows the result of the year's operations:—

Balance at commencement.	*Collected during year.*	*Sold during year.*	*Balance in hand.*
Cubic feet.	Cubic feet.	Cubic feet.	Cubic feet.
7,179	99,061	46,082	59,858

The large balance in hand was due to the fact that when an auction was attempted, collusion among the purchasers prevented fair prices being offered, but all the fuel has been sold since the close of the year to the Roorkee Workshops at Rs. 22 per 100 maunds.

This year's experience has shown that it is better to sell drift fuel directly to the Workshops and not to attempt auction sales, except for drift timber.

46. *Birbhadar sissu fellings.*— Two hundred dying and mature sissu trees were felled in the Birbhadar block on the Ganges river and yielded 754 logs, of which 252 were conveyed to the Lálta Rao depôt and 47 sold for Rs. 465, or Re. 0-15-0 per cubic foot.

47. *Clearing of Thakúrpur district land.*—This land is being cleared by the Forest Department to be handed over to cultivation.

It will yield chiefly fuel for the Roorkee Workshops, but none of the produce came in to this year's forms.

48. *Improvement fellings in Nágsidh and Chandrabani forests.*— These works, over areas of 316 and 1,130 acres respectively, were undertaken partly for the supply of neighbouring tea planters with fuel, and in the former block the planters and others removed 849 cartloads of fuel which was cut up by Government from felled sál trees, paying annas ten per cartload. In the latter block 3,256 cartloads of fuel was removed, paying 7 annas per cartload, the fuel being cut up by the planters' men from the felled trees.

In both cases the timber from the trees, both in scantling and in the round, was sold to native contractors by the cubic foot of converted produce, and the pecuniary results cannot be given until next year.

This kind of mixed operation, which was undertaken to oblige the planters, who offered assistance in fire-conservancy, will not be continued in future years.

49. *Fellings for Ganges Canal bund timber in Tiredl forest.*—Here 15,082 trees were felled by Government agency, and only poles supplied to the Canal Department, who indented as follows:—

Ballas	...	...	...	...	...	1,100
Ballis	...	...	...	...	...	4,500
Tors	...	...	...	...	..	8,400

and the supply of this material was going on at the close of the year.

For the Ganges Canal bunds only straight pieces of certain species of kukat or of sál are admissible, and the forests in the Ganges Division and also the Dún private and Government forests are already almost exhausted of suitable kukat material.

Nothing remains, therefore, but to supply sál, which naturally grows straight enough for the purpose, until the coppices to be started in accordance with the new Dehra Dún Working Plan can be made to yield suitable kukat timber.

As the Canal Department only requires poles, arrangements are being made to sell the remaining timber by the cubic foot, or as tors, and the branches, &c., will be either sold as fuel, or as charcoal

The question of the future supply for the Ganges Canal requires careful consideration, as a very large area had to be cut over this year for the supply of sál timber of suitable quality

50 *Improvement fellings in Lakarkot forest*.—Half compartment 4 and compartments 5 and 6, 1,200 acres, were gone over, of which about 470 acres were blanks, or scrub.

The outturn was very small, as precautions so as not to expose the advance growth to frost had to be taken.

The work is now being done on the same system as in Dehra Dún, and the following list shows the results.—

	Trees felled	*Trees girdled*
Sal	35,170	..
Kukat ...	12,326	3,068

The outturn was only 1,657 cubic feet of ballas, tors and ballis.

Rs. 804 was obtained from balance of last year's operations, and Rs 220 is still owing. Most of the timber and fuel from this year's work will be sold in the next August auction sales.

51. *Tira fuel coppice*.—This is a coppice started in 1884 for the fuel supply of Roorkee, the standing growth being chiefly badly shaped bunder (*Zizyphus Xylopyra*).

It has been found necessary to fell departmentally, as the stools used to be badly hacked by contractors. Compartment 5 of 75 acres was felled departmentally at a cost of Rs. 186, the work being well done. Three hundred standards were left; but all straight and promising poles should be left in future, the object being to get straight tall coppice shoots and the standards will draw them up and assist in keeping the ground covered.

The coupe was sold for Rs. 620. This gives a net surplus over the cost of coppicing of Rs. 5-12-0 per acre, a very fair price, as the Dún improvement fellings of very much superior material are only estimated to yield Rs. 15 per acre.

There was great delay in working the standards and felling the the material, and, in consequence, contractors export was delayed till the end of March, and a fire broke out which burned the entire coppice. An account of this disastrous event is given in a previous paragraph

In future, great care must be taken to start the work as soon as the forests are sufficiently dry after the monsoon

Jaunsár divisional departmental sleeper works

52 *Deota forest*.—Fifteen hundred and ten deodar trees were felled and most of them converted into 74,996 metre gauge sleepers. These were passed by two Range officers and classed as 1st and 2nd class and as rejections, the latter being 5% of the whole. Seventy thousand and twelve sleepers were carried to the upper sledge road depôt and 39,567 sleepers remained in the forest at the close of the year.

Logging has this year been done by the sawyers, instead of by a separate contractor, and resulted in a great saving of timber, the outturn being 51 sleepers per tree, instead of 4½ per tree, as last year.

The reason for this is that payment being now made only for the sleepers, the sawyers have an interest in preparing as many sleepers as possible, whilst formerly they refused to saw any log with a slight flaw in it.

The rate for logging and sawing was 4 annas per sleeper, which has been reduced to Rs. 0-3-6 for the current year. The Deota sledge-road has worked excellently during the year, the rate paid being Rs. 0-4-0 per 20 sleepers in the dry season and Rs. 0-4-6 during the rains.

Mr. Moir has appended a statement to his report showing that the sledge-road, besides greatly facilitating the work in a forest where labour is scarce, has resulted in a financial saving to Government of Rs. 6,000 in the last four years, whilst still one lakh of sleepers will probably be carried on it.

The wet slide was repaired during the year at a cost of Rs. 1,113, considerable damage having been done to it by a heavy flood last August, stopping the sliding for three weeks in the most favourable season.

Owing to accidents and other difficulties, Mr. Moir finds it difficult to slide more than 50,000 sleepers in the year, and a proposal to double the slide has been abandoned on account of its estimated cost, Rs. 13,000.

We now endeavour to slide at night, though the work is dangerous and costly, but will be rendered less so by the use of an electric bell, which has been ordered, so that further sliding can be at once stopped when a jam occurs.

The slide is now being thoroughly repaired, so that, if possible, 80,000 sleepers may be slid during the current season.

The attempts to work the dry slide failed, after 9,707 sleepers had been passed down it, of which 10 % were broken or damaged.

The net cost of this experiment was Rs. 1,378, and it has taught us that, except for long straight lengths and gradients under 40° such slides will probably fail.

53. *Raiengarh forest sleeper works.*—Eight hundred and twenty-three deodar trees were felled as a final coupe in this forest, yielding 41,036 metre gauge sleepers, of which all but 10,827 were removed to the Arakót depôt on the Pabar river, seven miles distant, costing in all Re 0-9-6 per sleeper delivered, as against Rs. 0-7-6 in the Deota forest, the saving by mechanical means in the latter being two annas per sleeper. Works in this forest, which have continued since 1878, will be concluded during the current year.

54. *Sleeper works in Dedragád forest.*—Fallen trees and dead timber alone were sawn up in this forest, and yielded 11,608 metre gauge sleepers, most of which were carried to the banks of the Kotigád stream, and 6,000 were launched and went down the Pábar with the Raiengarh sleepers.

The floating in the Kotigád being assisted by a favourable flood, only cost 5 pies per sleeper and the total export to Arakót 8 annas per sleeper.

There is still a quantity of dead wood in the Dedragád forest, which will be worked out during the current year.

55. *Floating to Dákhpathar.*—Eleven thousand three hundred pieces of timber were floated down the Pábar and Tons rivers to the Dákhpathar depôt, the largest quantity that has ever been undertaken departmentally.

The work only took 3½ instead of 4½ months, as in former years, this being due to better supervision of the floating gangs.

The following statement gives the quantity of timber floated :—

	Rs
Metre gauge sleepers—	
From Deota forest	50,550
„ Raiengarh „	53,166
„ Dedragád „	6,000
Spruce timber—	
From Dátmir	270
Pine sleepers and karris—	
From Ondl forest	2,460
Párchkoti „	1,902
Total ...	1,13,358

The cost was Rs. 2,166 or pies 3·7 per piece, as against annas 4 formerly paid to Mr. Winton and compared with pies 7·6 in 1885-86 and pies 5·4 in 1886-87.

56. *Rafting sleepers to Delhi.*—The sleepers arrived at Dákhpathar in January and February, and were classified by Mr. Tickell, Executive Engineer, deputed by the Agent, Bombay, Baroda, and Central India Railway, the sleepers being passed at the rate of 20,000 per diem.

Five per cent. were rejected, which is an admissible proportion, and 1,01,788 were rafted to Delhi, only 99,930 having been however billed for during the year.

The river Range Officer, who has since been suspended, is suspected of collusion with the rafting men and keeping up the charges for rafting, which are the same as last year, Rs. 1-8-0 per score of sleepers.

The Western Jumna Canal officers have stopped floating on the Jumna river, which was formerly practicable from Dádupur to Delhi.

The Executive Engineer insisted on all our sleepers going to Delhi by canal, and the fees paid at Rs. 0-1-1 per sleeper are as follows :—

	Rs.
Bogriwala to Dádupur	3,714
Dádupur to Delhi	4,951
Total	8,665

whilst four-fifths of the latter amount used to be saved by floating in the Jumna below Dadupur.

The sleepers were being made over to the railway at Delhi at the close of the year.

The auction sale of rejected sleepers and other timber was held at Dákhpathar on the 1st March, and 2,769 pieces were sold for Rs. 2,336, the rejected sleepers realizing Re. 0-7-0 each.

57. *Export of spruce timber for tea boxes from Dátmir forest.*—This work, which was undertaken to supply a new material for tea boxes and save the mango topes of the Dún and Saharanpúr districts from destruction, has proved a failure, although samples of the wood had previously been approved by the planters. Two thousand and thirty three spruce scantlings of sizes were launched in 1886-87, but too late in the season, and very little came down the Tons.

During the past year, only 270 pieces were found and brought to Dákhpathar and were offered for sale, but though due notice was given, not a single planter or agent for a tea garden attended, the highest offer forthcoming being 2 annas a piece of 4 cubic feet. This experiment cost Rs. 1,605.

58. *Fuel supply of Chakráta.*—The following quantity of fuel was supplied during the year :—

	Cubic feet.
Fir from Khepti forest	76,461
Oak from Mohna	52,195
Total ...	1,28,656

of which 91,900 cubic feet was carried to depôt. A reduction of Re. 0-4-0 per 100 cubic feet was effected in the cutting rates for fir.

Negotiations for a new deed of agreement with the Commissariat Department are going on, as the present one is open to several objections.

59. *Kurwa oak coppice.*—Compartment 19 of about 5 acres was coppiced, 60 standards being left a belt of trees at the upper limit of the coupe.

The outturn was 7,500 cubic feet of fuel and 740 cubic feet of charcoal. This was sold to the Chakráta Brewery and to the Military Works for lime-burning, for Rs. 888-12-0, being at the rate of Rs. 9-1-0 per acre for the whole 60 acres of coppice, after deducting the cost of coppicing.

Some more fuel and charcoal was also obtained by coppicing four acres of bán forest in the Chakráta forest garden.

Removal of produce by purchasers.

60. *Trees felled.*—The following statement shows the trees felled by purchasers as compared with the previous year and the average of the four preceding years:—

Year.	*Selection fellings.*		*Thinnings.*		*Clearances.*		*Total.*	
	Trees.	Cubic feet.	Trees.	Cubic feet.	Trees.	Cubic feet.	Trees.	Cubic feet.
Average of 4 preceding years.	3,329	2,87,650	7,870	80,573	...	.	13,199	3,68,223
1886-87	2,426	1,44,980	9,020	77,618	...	..	12,116	2,22,628
1887-88	6,744	4,12,027	38,037	1,20,754	138	684	44,919	5,39,465

The trees felled are distributed as follows as regards species :—

Species.	*Selection fellings.*		*Thinnings.*		*Clearances.*	
	1886-87.	1887-88	1886-87.	1887-88.	1886-87.	1887-88
Sál	595	29	7,405	7,810	...	33
Sain	...	651	200	83	..	4
Sissu	170	65	...	..	...	...
Fir and pine	1,684	3	...	...	...	..
Oak	18	61	...	....	...	...
Deodar	22	57	..	...	...	...
Chír (P. longifolia)	...	4,885	...	...	...	...
Miscellaneous	7	993	1,995	30,144	...	101
Total ...	2,496	6,744	9,620	38,037	...	138

The increase in selection fellings is chiefly due to large sales of chír in Jaunsár, for which an auction was held at Deoban in September and 4,763 trees sold at an average rate of Rs. 5, Rs. 7-6-0 per tree over 6 feet in girth in the Khunigád having been obtained.

The main sales in the Dún were as follows :—

Name of forest.	Number of acres.	*Trees sold.*			Price.	Price per acre.
		Sál	Sain.	Kokat.		
					Rs.	Rs.
Rámgarh	1,006	6,368	82	25,584	12,050	11·9
Thánu	127	1,442	...	1,996	4,551	36·6

Purchasers also worked partially in the Nágsidh and Chandrabani forests, in the areas already reported on as worked departmentally.

This kind of mixed felling will be abandoned.

61. The amount of produce removed by purchasers is exhibited as follows :—

Produce removed.	1886-87.		1887-88.	
	Quantity.	Value.	Quantity.	Value.
		Rs.		Rs.
Timber, cubic feet	208,302	25,372	676,646	43,499
Piles and saplings, No.	32,516	7,993	18,390	3,901
Firewood, cubic feet	553,814	11,840	359,117	7,015
(Charcoal,) cubic feet	4,746	95	880	110
Bamboos, scores	124,566	14,628	102,130	10,154
Grazing dues	...	25,604	...	23,053
Minor produce	...	10,865	...	18,900
Total ...	...	1,02,007	...	1,02,232

There is a large increase in the quantity of timber sold, due to increased sales in Dehra Dun and in Jaunsár, but there is a falling of in poles and firewood and grazing chiefly in the Dún, which is not explained by divisional officer, in bamboos and minor produce in Saháranpur, the latter being due to bad prices obtained at the auction sales of leases, the comparative results of which are given below :—

	1883.	1884.	1885.	1886	1887
Price in rupees ..	20,020	15,770	18,441	22,435	14,145

Mr. Hobart-Hampden attributes the falling off to the extension of fire-conservancy, owing to which the terms of the leases have been reduced and most of them now end on 31st January, instead of the 30th April, and to the fire-protection being said not to favor the protection of Bháber grass.

It is also partly due to collusion amongst the buyers at the auction sales, to prevent which the officer holding the auctions must always be on his guard. In the Dún, the results of the auction of leases were as follows :—

	1887-88.	*Average of 5 years*
	Rs.	Rs
Dry tors	2,752	3,653
Dry fallen wood, grass, bamboos and minor produce	3,805	9,344
Limestone and drift wood in race	1,037	3,301
Hides	151	202
Gum	1,035	531
Total ...	9,781	17,411

The fallings off is chiefly due to the present exclusion of dead wood, and to increased sales of bamboos by permits.

Free grants of forest produce.

62. *Trees felled.*—The following table shows the number of trees felled and give to the villagers during the year :—

Year	*Selection fellings, &c.*	
	Number	Cubic feet
Average of four preceding years	6,120	0,03,805
1886-87	1,120	76,706
1887-88	2,047	1,33,351

The species given away are as follows, compared with those of last year :—

	1886-87	1887-88.
Sál	58	109
Sain	15	
Chír (P longifolia)		496
Deodar	153	216
Fir and pine . .	721	812
Oak .. .	97	201
Other trees	78	154
Total .	1,120	2,047

The increased number of deodár trees removed is due to the fact that the two years' grace granted to the Jaunsáris to learn the use of the saw instead of the axe, having expired on the 31st March last, induced the villagers to remove all their free grants during the year.

A number of Khats have already learned the use of the saw, and these men greatly prefer it to the former wasteful method, necessity will doubtless soon teach the more backward Khats to follow their example.

63. *Produce removed.*—The following statement compares the produce removed by grantees with that of the previous year :—

Description of produce		1886 87		1887 88	
		Quantity	Value	Quantity	Value
			Rs		Rs
Timber ...	Cubic feet	82,192	7,863	144,889	22,824
Poles and saplings	Number ..	155	39	102	6
Firewood	Cubic feet.	19,69,040	61,533	19,69,040	61,525
Bamboos ...	Scores ..	25	1	50	2
Grazing at half rates ..			1 501	...	1,519
Free grazing and fodder grass		..	6,320		6,320
Minor produce ..	..		500	..	500
			77,757		92,696

64. *Trade in forest produce.*—Seven deodár fellings in the Taróch and Jubal States are bringing quantities of sleepers into the Delhi market.

The trade in chír timber in the Tons and Jumna river valleys has greatly increased, the wood being chiefly taken to Delhi, where six years ago there was hardly any demand for such timber.

Deodár and kail (*Pinus excelsa*) scantling sells practically at the same rates as chír, and being far more difficult of export than the latter timber, which grows close to the rivers, cannot compete with it.

At the auction held at Dakhpathar to test the value of different timbers the following prices were obtained, or offered by purchasers —

	Per score Rs	a	p	
Chír broad gauge sleepers	23	13	0	
Ditto karris . ..	11	15	0	
Kail broad gauge sleepers ...	20	0	0	(offered).
Ditto karris .	11	12	0	
Rai beams (8′ × 14″ × 7″)	2	8	0	(offered)

In the Saharanpur Division there is a brisk demand for gum and for bakli leaves for tanning, and the coppice system for fuel is to be extended.

Sales of limestone fell off in the Dún Division, being only Rs. 1,937 as compared with Rs 3,691 on the average of the previous five years.

CHAPTER V.

Financial Results.

Receipts and Expenditure

65 The financial results under receipts and expenditure compare as follows with those of the previous year and the average of the five previous years.

Division	Receipts			Expenditure.			Surplus		
	Average of 5 previous years, i.e., 1881 82 to 1885-86	1886-87	1887 88.	Average of 5 previous years, i.e., 1881 82 to 1885 86	1886-87	1887 88.	Average of 5 previous years, i.e., 1881 82 to 1885-86	1886-87	1887 88.
	Rs	Rs.	Rs	Rs	Rs	Rs	Rs	Rs	Rs
Dehra Dún ..	72,747	74,636	75,389	48,654	58,183	51,650	+ 24,093	+ 16,453	+ 23,739
Saharanpur	37 110	39,927	32,043	22,059	23,461	24,172	+ 15,051	+ 16,466	+ 7,871
Jaunsár	1,64,637	2,21,570	2,48,938	1,55,706	1,63,748	1,78,379	+ 7,841	+ 57,822	+ 70,559
Direction .	1,854	726	764	43,797	21,951	23,3 11	− 41,943	− 21,225	− 22,627
Total	2,75,378	3,36,859	3,57,134	2,70,206	2,07,343	2 77,592	+ 5,072	+ 60,516	+ 79,542

The revenue of the circle is the highest hitherto attained, exceeding last year's by Rs. 20,275 and the average revenue of the previous five years by Rs. 31,756.

The increase since last year, Rs. 27,368, is almost entirely in the Jaunsár Division, due to more sleepers being sold, to the increased sale of standing chír trees, and to the increase in river dues.

In the Dún there is a small increase of Rs. 753, whilst the Saháranpur forest revenue has fallen by Rs. 7,884 due to our stopping the sale of standing dead wood in the leases and to the small return from departmental timber works.

The Dehra Dún revenue should increase now that the Working Plan is out, and it is proposed to double the amount of timber to be sold annually. This could not be done until the valuation of the forests had shown that they were largely under worked.

In Saháranpur the revenue may be developed by increasing the rates for grazing dues, which are very low as compared with rates charged in the Punjab, and by simplifying the method of collection, which at present does not work smoothly. Some further increase may be effected by starting fuel coppices in the different ranges, which will be done next year.

In Jaunsár, further expansion of the revenue cannot be expected unless a market for spruce and silver fir could be opened out.

The expenditure of the circle, Rs. 2,77,592, has increased since last year by Rs. 10,249, being Rs. 7,286 above the average expenditure of the previous five years.

The increase is accounted for as follows :—

	Rs.
Jaunsár	14,631
Saháranpur	711
Direction	1,440
Total ...	16,782
Whilst there is in the Dún a saving of	6,533
Net increase	10,249

The increased expenditure in Jaunsár is only Rs. 2,374 under A, which, considering the expansion of the revenue and the fact that Rs. 24,000 was paid for part purchase of Hari Das's sleepers, the revenue for which figured in last year's accounts, is reasonable. There is, however, an increase of Rs. 11,974 in outstandings due to contractors during the year. The expenditure of that division under B exceeded that of the previous year by Rs. 12,257, mainly due to the presence of Mr. Hearle engaged on Working Plans, and to the fact that Mr. Moir, being a senior officer, drew higher pay than Mr. Hobart-Hampden, who was in charge of the division last year.

The increased expenditure in the Direction Division Rs. 1,440 is chiefly due to Rs. 972 for Mr. Mercer's pay and travelling allowance being charge to this division for a portion of the year, and Rs. 350 increased pay of office establishment, due to revised scale sanctioned by Government.

Sources of Revenue.

66. The receipts are derived from the following sources :—

Sources of Revenue.

Division.	Timber and other produce removed from the forests by Government agency.	Timber and other produce removed from the forests by consumers and purchasers.	Confiscated drift and waif wood.	Revenue from forests not managed by Government.*	Miscellaneous.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Dehra Dún ... Average of five previous years ...	3,754	63,642	4,086	1	364	72,747
1886-87 ...	4,071	63,421	6,726	...	418	74,636
1887-88 ...	15,388	55,218	4,543	...	240	75,389
Saháranpur ... Average of five previous years ...	1,159	34,480	910	...	582	37,140
1886-87 ...	3,861	25,985	...	...	81	29,927
1887-88 ...	1,648	29,907	...	...	398	32,043
Jaunsár ... Average of five previous years ...	1,38,564	14,485	151	8,529	1,909	1,63,637
1886-87 ...	2,03,713	8,781	13	8,612	451	2,21,570
1887-88 ...	2,11,243	2,779	92	14,309	2,425	2,48,938
Direction ... Average of five previous years ...	...	...	...	...	1,854	1,854
1886-87 ...	...	...	...	...	726	726
1887-88 ...	...	...	...	...	764	764
Total ... Average of five previous years ...	1,43,477	1,12,610	6,047	8,530	4,708	2,75,378
1886-87 ...	2,11,645	1,08,187	6,739	8,612	1,676	3,36,859
1887-88 ...	2,28,279	1,05,904	4,635	14,309	3,827	3,57,134

* Jumna river dues.

The expansion of revenue from timber works by Government agency is due to our having undertaken the supply of timber in the Dún for the Ganges Canal bunds, and of fuel to tea planters and to our supply of sleepers to the Rájputana and Central India Railway having been doubled within the last two years.

The sales of timber to purchasers have falling off in the Dún, but this is due to reduced sales in 1886, better prices having been obtained in 1887, but as payments for coupes are spread over two years, the results of improved sales are not at once appreciable.

The falling off in Saháranpur is due to non-sale of dead wood in the leases, which consequently fetched lower prices, and to the outturn of departmental timber works being small, owing to inferiority of the forest under working.

In Jaunsár sales, chiefly of chír trees, have expanded.

The falling off under sales of drift wood is due to the quantity in hand at close of the year, most of which has since been profitably sold.

The value of all drift wood in the Ganges is now credited to the Dehra Dún Division, hence no revenue under this head appears as formerly in the Saháranpur Division.

There is a considerable expansion of the Jumna river dues, owing to the larger quantities of private timber brought down.

Expenditure under A and B.

67. The following tables show the expenditure :—

A.—*Conservancy and works*

Division, &c		Timber and other produce removed from the forests by Government agency	Timber and other produce removed from the forests by purchasers	Confiscated drift and waif wood	Revenue from forests not managed by Government.	Revenue from leased forests	Live stock, stores, tools and plant.	Communications and buildings.	Demarcation and improvement.	Miscellaneous.	Total.	Remarks
		Rs.	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	
Dehra Dún	Average of previous five years	1,023	2,708	1,787		2,151	1,817	6,866	8,070	2,043	27,315	
	1886 87	6,445	2,718	3,942	...	3,351	2,156	9,313	7,920	1,128	36 968	
	1887 88 ...	6,106	1,455	4,569	..	351	1,082	9,189	6,016	1,007	30,485	
Saharanpur	Average of previous five years	679	4,833	48	.	...	847	1,821	5,103	390	13,721	
	1886 87 .	2,079	3,235			.	907	1,503	3,446	198	11,368	
	1887 88	854	228				1,231	2,447	3,514	260	8,513	
Jaunsar	Average of previous five years	1,07,773			1,450	7,550	564	8,808	4,632	1,910	1,32,199	
	1886 87 .	1,19,402	..		3,375	11,150	294	6 249	4,434	501	1,45,405	
	1887 88	1,14,047	.		2,334	11,150	573	11,223	9,424	1,048	1,47,779	
Direction	Average of previous five years		..	..	.	.	2,521	5,019	838	2 754	11,112	
	1886 87				...		921	1,527	...	1,231	3,679	
	1887 88				...		1,209	1,648		1,002	3,949	
Total.	Average of previous five years	1,09,475	7,541	1,785	1,450	9,701	5,749	22,014	19,543	7,083	1,84,347	
	1886 87	1,27,926	5,948	3,942	3 375	14,501	4,278	18,592	15,800	3,058	1,97,420	
	1887 88	1,18,967	1,683	4,569	2 334	11,501	4,005	24,507	19,553	3,467	1,90,676	

We note that the surplus under departmental timber operations, Rs 2,28,279—1,18,967=Rs 1,09,312, is satisfactory.

Maintenance of departmental timber operations in this circle is warranted for many reasons, which have been already represented to Government. The reduction of expenditure on account of departmental timber works, Rs. 8,959, as compared with last year's figures, points to economy, but is partly due to less fuel being brought down to Chakráta, owing to the large stock in hand from the previous year.

The fall of Rs 4,265 under charges for timber removed by purchasers is a matter of account, due to transfer of establishment from temporary to permanent

The fall of Rs. 3,000 in the expenditure an account of leased forests is due to the abandonment of the Sheopuri forests

The increase of Rs. 5,915 under roads and buildings is due to the construction of headquarters buildings at Chakráta, and to increase of Rs 574 under road work in Saharanpur for improvements effected in the Hardwár-Kharra road and of Rs. 294 for forest guards' chaukies.

The increase under demarcation and improvement, Rs 3,733, is all in the Jaunsar Division, due to demarcation of cultivation within the reserves and increased planting

The total expenditure under A has decreased since last year by Rs. 6,744.

B —*Establishment*

Division, &c		I Salaries	II Travelling allowances	III Contingencies	Total
Dehra Dún ...	Average of 5 previous years ...	17,938	2,218	1 183	21,339
	1886 87	18,022	1 781	1,411	21,214
	1887 88	17,249	2 610	1,356	21,215
Saharanpur	Average of previous years	6,371	1,005	876	8,340
	1886 87 ...	10,252	1,173	668	12,093
	1887 88 . .	13,613	1,306	630	15,059
Jaunsar	Average of 5 previous years	19 679	2,844	1,074	23,597
	1886 87	15,190	2,091	1,054	18,344
	1887-88	25 911	3,656	1,034	30,601
Direction	Average of 5 previous years	27,083	3,359	2 242	32,684
	1886 87	14,918	1,278	2,081	18,272
	1887 88	15,964	1 530	1,957	19,441
Total ..	Average of 5 previous years	71,071	9,514	5,375	85,960
	1886-87	58,386	6,423	5,214	69,923
	1887 88 .	72,727	9,102	4,097	86,916

There is an increase since last year of Rs. 16,993 under B, being Rs. 3,566 in Saháranpur, chiefly a matter of account from temporary establishments having become permanent, whilst the increased expenditure in Jaunsár, Rs. 12,257, and in the Direction Division, Rs. 1,169, has been already explained.

In the Dehra Dún Division there is no change, the savings of Rs. 2,158 due to the transfer of Babu Karuna Nidhan Mukerji, Sub-Assistant Conservator of Forests, to Oudh, being counterbalanced by increase of Rs. 832 in travelling allowance, and Rs. 1,384 in establishments, due to the improved permanent establishments sanctioned by Government, and partly replacing temporary establishments now saved under A.

68. *Receipts and Expenditure under the three great sub-heads.*—The receipts and expenditure under the three heads, I Departmental timber operations, II other revenue, III formation, protection and improvement of forests, were as follows :—

Division, &c.		*Departmental timber operations.*			*Other Revenue.*			Formation, protection and improvement charges.	Net surplus.
		Receipts.	Charges.	Surplus.	Receipts	Charges.	Surplus.		
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Dehra Dún.	Average of seven previous years.	3,990	1,325	2,671	61,742	9,856	51,886	32,115	22,442
	1886-87	4,071	6,445	−2,374	70,566	10,187	60,378	41,551	16,453
	1887-88	15,388	6,106	9,282	60,001	8,956	51,045	36,588	23,739
Saha-ranpur.	Average of seven previous years.	827	485	342	34,070	10,395	23,675	10,477	13,540
	1886-87	3,501	2,079	1,782	36,066	10,386	25,680	10,996	16,466
	1887-88	1,048	834	214	30,395	9,549	20,846	13,789	7,871
Jaun-sar.	Average of seven previous years.	1,45,970	1,12,547	33,423	18,778	4,177	14,601	30,959	17,065
	1886-87	2,03,713	1,27,648	76,065	17,857	5,041	12,816	31,059	57,822
	1887-88	2,11,243	1,25,844	85,399	37,695	5,330	32,365	47,205	70,559
Direc-tion.	Average of seven previous years.	...	21,636	−21,636	1,326	5,691	−4,365	16,113	−42,114
	1886-87	...	7,317	−7,317	726	7,317	−6,591	7,317	−21,225
	1887-88	..	7,797	−7,797	764	7,797	−7,033	7,797	−22,027
Circle.	Average of seven previous years.	1,50,793	1,35,998	14,800	1,15,916	30,119	85,797	89,004	10,933
	1886-87	2,11,645	1,43,489	68,156	1,25,214	32,031	92,283	90,923	69,516
	1887-88	2,28,279	1,40,581	87,698	1,28,855	31,032	97,223	1,05,379	79,542

The steadily-improving surplus of the departmental operations is satisfactory, whilst the increased charges on the improvement of the forests point to much useful work done.

Outstandings and liabilities.

69. The outstandings and liabilities on account of contractors and disbursers are shown in the form 61.

At the commencement of the year, the outstandings were Rs. 16,873 and Rs. 28,632 at its close.

The liabilities are Rs. 29.

These are distributed as follows :—

	Outstandings.	*Liabilities.*
	Rs.	Rs.
Direction	288	6
Dehra Dún	1,850	1
Saháranpur	547	22
Jaunsár	25,947	...
Total	28,632	29

The outstandings in Jaunsár have increased by Rs. 11,974 during the year.

This is explained as due to large advances made for sleeper-carrying, and to the impossibility of settling some contractors' accounts at the close of the year, the men being absent, owing to the snow and other causes.

Outstandings of revenue.

70. The outstandings of revenue were as follows, at the close of the year :—

	Rs.
Dehra Dún	6,205
Saháranpur	8,726
Jaunsár	8,582
Total	23,463

as compared with Rs. 21,255 due at the close of last year.

The outstandings in the Dún and Jaunsár are mainly due to sales of standing trees to purchasers, part of the proceeds of which did not fall due within the year.

The outstanding in Saháranpur is nearly all due to non-collection of grazing dues by the Tahsildárs.

CHAPTER VI.

General Remarks.

Main facts relating to each Division.

71. The following table gives the main facts relating to each division :—

Division.		Area in acres.	Yield of timber in cubic feet.	Kind of timber.	Yield of timber in cubic feet per acre.	Total receipts.	Receipts per acre.	Total expenditure.	Expenditure per acre.	Total surplus or deficit.	Ratio of expenditure to receipts.	Surplus per acre.
					Rs.	Rs.	Annas.	Rs.	Annas.	Rs.		Annas.
Dehra Dún ...	1886-87 ...	1,77,080	1,72,969	Sál, saiu, tún, chír and miscellaneous.	·98	74,638	6·74	68,183	5·28	+10,453	79	1·49
	1887-88 ...	1,77,080	1,97,617		1·11	75,389	6·81	51,650	4·07	+23,730	·69	2·14
Saháranpur ...	1886-87 ...	1,88,563	4,712		·02	30,027	3·36	23,461	1·97	+10,466	·58	1·48
	1887-88 ...	1,88,560	7,747		·04	32,043	2·72	24,172	2·05	+7,871	·75	·67
Jaunsár ...	1886-87 ..	1,47,004	4,38,834	Deodar, chír, ...	2·98	2,21,570	24·32	1,63,748	17·70	+57,822	74	6·25
	1887-88 ...	1,45,459	7,72,484	Fir, oaks, &c. ...	5 27	2,46,038	27·2	1,78,379	19·47	+70,659	·71	7·73
Direction ...	1886-87 ...	...	..	.	...	726	...	21,951	.	−21,225	30·2	..
	1887-88 ...	...	...	..	...	704	...	23,331	...	−22,627	30 61	...
Total ...	1886-87 ..	5,13,007	6,16,515	...	1·20	3,30,859	10·5	2,67,343	8·35	69,516	79	2 16
	1887-88 ...	5,12,105	9,78,048	...	1·91	3,57,134	11·15	2,77,592	8·67	+79,542	·77	2·48

It will be seen that the yield of timber for the forests of the circle has increased by ·71 cubic foot during the year, being nearly doubled in Jaunsár, but halved in Saháranpur.

The surplus for the circle is now 2½ annas per acre.

Control of the timber traffic on the Ganges and Jumna rivers.

72. No figures are at present available to show the extent of the traffic on the Ganges river.

There has been a large increase in the export of timber down the Jumna river, due to the extensive fellings in the Jubal and Taróch States, the forests of Keuntal being now worked out. In consequence of this active trade, and partly because some of last year's dues were only paid in after the 1st April, 1887, the amount of dues received has increased from Rs. 6,506 to Rs. 14,249. It may be noted that this Government offered liberal terms for a perpetual lease of all these forests to the different chiefs, which were refused, and the Keuntal State has now burned and ruined forests yielding no revenue, whilst the other two States are selling their standing deodar at absurdly low rates, and gorging the markets with unsaleable timber, there being only a very limited demand for railway sleepers, the only deodar scantling exported.

The following tables give the quantity of timber exported as compared with the previous year and the average of the previous five years, and also the classification of the timber exported during the year.

Description	Government agency.	Purchasers from Government forests.	From private forests.	Total, 1887 88	Rafting dues 1887 88
Broad gauge deodar sleepers		56	1,73 586	1,73 642	
Metre gauge ditto	1,01,788	965	60,345	2,66,132	
Deodar, other pieces	106		63	169	
Chír scantlings	...	85,909	52,500	1,38,407	
Chír, other pieces		286	2,388	2 674	
Fir pine and miscellaneous kinds		156	77,043	77,199	
Sál scantlings, &c					
Total 1887 88	1,01,894	87,372	3,65,926	6,58,225	14,240
Total 1886 87	50,735	65,603	2,87,372	4,03,770	6,506

There has been a large increase in the export of sleepers of both kinds, and a falling off in sal and other miscellaneous pieces, due to the reduced working of the private sal forests in Dehra Dún.

There appears to have been less interference on the Sirmúr side with merchants' timber, and less theft than in previous years. As in former years, a large number of merchants' sleepers came down with the Government timber, but the different gangs engaged in floating worked harmoniously together, and those merchants who had not sufficiently large gangs paid floating rates for the assistance they received, at from one to two annas a sleeper.

The number of timber marks registered for use on the Jumna river up to date is 92, of which 14 were registered during the year.

Supply of seed

73 Nineteen and a half maunds of seed were supplied to the Public during the year This is less than usual, owing to the failure of most coniferous seeds, and consisted chiefly of khair seed sent to Ajmere.—

Collection of turpentine

The experimental collection of turpentine from 60 chír trees in the Tons valley was continued, and a collection of resin from both chír and kail on a large scale has been ordered by the Government of India, and commenced early in April, 1888.

Effects of fire protection on the watercourses in the Siwaliks

74 Levels were taken of nine representative rains by students of the Forest School and in consequence of orders of Government of India that the storms should be timed and the rainfall accurately measured, Waterbury watches and rain-gauges have been supplied for the present observations.

Experimental preparation of staves for beer barrels

Five hundred moru and karshu oak staves were supplied at a cost of Rs. 169 to Messrs. Mackinnon and Co and Mr Springett, Brewers for experimental use; as owing to the discontinuance of the use of English ale by troops in India, about 80,000 casks have now to be imported annually from Austria and Russia at a cost of Rs. 10 each at Sahúranpur, and the substitution of Indian oak or other wood is advisable.

Mr. Mackinnon has tried bán, which proved too brittle, and inai (*Quercus amulata*), but the result of the latter experiment is not known. Moru is found to answer capitally, except for its great weight, 2 maunds 1½ seers per cask as compared with 1 maund 13 seers for English oak Mr. Springett prefers karshu to moru. It is certain that the Indian oak wood if properly seasoned would weigh less.

Paper pulp.

75. Considerable correspondence has taken place with the Manager of the Lucknow Paper Mills, and others, regarding a supply of wood pulp for paper manufacture, also of maljhan fibre from the Dún. The manager wishes to obtain a large supply of that he calls *white maljhan*, but cannot identify the plant, which appears to be some climber. He, however, states that it is not ganja (*Millettia auriculata*) which it greatly resembles. There is little doubt that large quantities of suitable material for paper manufacture is available in the forests of the circle, and there is splendid water power in the Dún, so that the establishment of paper mills should be a feasible undertaking.

Tour of Conservator.

76. The Conservator was in camp with the Forest School in Jaunsár during part of April and May, 1887, and continued inspecting the Jaunsár forests in June. From November, 1887 to March, 1888, he was engaged in inspection of the Dehra Dún and Saháranpur forests, and in instructing students in the forest.

Services of Officers.

77. The good services of the officers of the circle are again brought to the notice of Government, especially for the good work done in preparing Working Plans for this and the Central Circle by Mr. Hearle, and for the great reduction which has been effected for departmental timber charges in Jaunsár and for fire-conservancy in the Dehra Dún and Saháranpur Divisions.

W. R. FISHER,

Conservator of Forests, School Circle, N.-W. P. and Oudh.

ANNUAL STATEMENTS

AND

APPENDICES.

ANNUAL FORM No. 49.—(Prescribed.)

Forest Department, School Circle, North-Western Provinces and Oudh.

Area of Reserved Forests, Protected Forests, Unclassed State Forests, and Waste Lands, 1887-88.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April, 1887. Acres.	Area on 1st April, 1887. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 1st March, 1888. Acres.	Area on 1st March, 1888. Equivalent in square miles.	Number and date of Notification of addition or transfer.	Remarks.
		I.—Reserved Forests.								
Dehra Dún — Western Range	Dehra Dún	Ambári	4,203	7	...	...	4,203	7		
		Chandpur	2,251	3	...	...	2,251	3		
		Jumna	9,130	14	...	...	9,130	14		
		Timli	19,704	31	...	...	19,704	31		
Malhan	Ditto	Dholkot	4,826	8	...	...	4,826	8		
		Sherpur	13,922	22	...	...	13,922	22		
		Chandrabani	7,289	11	...	...	7,289	11		
Central	Ditto	Rámgarh	10,482	17	...	...	10,482	17		
		Bulawála	14,965	23	...	...	14,965	23		
		Nageidh	16,517	26	...	...	16,517	26		
Eastern	Ditto	Kanarao	20,940	33	...	...	20,940	33		
		Motichur	22,073	34	...	...	22,073	34		
Thano and Tirsál	Ditto	Malkot	5,641	9	...	...	5,641	9		
		Thano	6,576	10	...	...	6,576	10		
		Tirsál	18,066	28	...	...	18,066	28		
		Sainkot	495	1	...	...	495	1		
		Total, Dehra Dún Division.	177,080	2177	...	...	177,080	277		
Saháranpur — Western Range	Saháranpur	...	87,862	128	...	...	87,862	128		
Central	Ditto	...	74,961	117	...	...	74,961	117		
Eastern	Ditto	...	31,740	50	*3	...	31,743	50		* Returned by the Oudh and Rohilkhand Railway Company in Patri Forests, 2 acres, 2 roods, 2 poles.
		Total, Saháranpur Division.	188,563	295	3	...	188,566	295		
Deoban Range	Dehra Dún	Kálsi	4,568	7	...	...	4,568	7		
		Strips on Jumna and Tons.	422	1	...	...	422	1		
		Singori, Kua. Kerwa, Kothar, Bandla, and Ráma.	279.	½	...	...	279	½		
		Amláwá	285	½	...	...	285	½	G. O. No. 837, 887.-3 dated 9th February, 1888.	
		Lokandi	6,975	11	...	(a)636	6,339	10		(a) Six hundred and thirty-six acres have been abandoned at the Chátri Forest, Khat Missau.
		Deoban	6,545	10	35	...	6,580	10		
		Ekra	5,313	8	...	...	5,313	8		
		Karamba	11,842	19	...	...	11,842	19		
		Konain	4,654	7	...	...	4,654	7		

Jaunsár	Báwar „ ...	Ditto	Baknár	6,450	10	.	...	6,450	10		
			Dharagad ..	13,540	21	..	...	13,540	21		
			Dharmgád	10,013	16	...	...	10,013	16		
	Deogarh „ .	Ditto .	Rastal .	3,085	5	..	.	3,085	5		
			Deogarh .	11,272	18	.		11,272	18		
			Khungad	11,974	19		...	11,974	19		
			Total, Jaunsár Division,	97,217	153	35	636	96,616	152		
		Grand Total of Circle	Reserved Forests for the	462,860	725	38	636	462,262	724		
			II—Leased Forests								
	Deogarh Range ...	Panjáb Hill State	Ramgarh .	5,002	8	...	...	5,002	8		
			Dadi including Ori ...	1,630	2	...	..	1,630	2		
	Deota „ ...	Tehri Garhwál ...	Deota .	4,937	8		..	4,937	8		
			Bamsu ...	2,323	4		...	2,323	4		
			Suras .	1,014	2			1,014	2		
			Dátmir	2,560	4	..		2,560	4		
			Naantwár ...	3,000	5	...	...	3,000	5		
	Kotgád „	Ditto ...	Sahlra, Naráyu, Chansal	22,000	34	.	..	22,000	34		
			Lambatách ..	2,883	4	...	.	2,883	4		
			Kotgad	3,968	6	...	..	3,968	6		
	Bashahr „ ...	Bashahr .	Bashahr	1,430	2		1,430		..	G O. No. 18F., 328-17 dated 10th January, 1888.	Re transferred to the Panjáb Forest Department.
			Total, Leased Forests,	50,747	79		1,430	49,317	77		
			III—Protected Forests								
			Nil								
			IV—Unclassed State Forests.								
Jaunsár Division	Deoban Range	Dehra Dún ...	Chakráta Cantonment Forests comprising—								Shown for the first time in this Statement.
			Lorli ..	...	..	325	*35	290	1		* Transferred to Mathángra Forests.
			Sutoli ..	.		188	...	188			
			Forest Garden	.	...	48		48	...		
			Total, Unclassed Forests,			561	35	526	1		
			V—Waste Lands.								
	Dehra Dún Division, ..			8,206	13	...	.	8,206	13		
			Total, Waste lands	8,206	13		...	8,206	13		
			Grand Total, Forest Lands.	521,813	817	599	2,101	520,311	815		

ANNUAL FORM No. 50.—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Prosecutions for breaches of Forest rules during 1887-88.

Forest Division and Civil District.	Cases pending from 1886-87.	New cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		*Convictions.*		*Acquittals.*		*Total.*		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Dehra Dún District.														
								I.—Prosecutions in the Courts of Law.						
Dehra Dún	...	1	...	...	...	1	1	1	1	...	...	1	1	...
Jaunsár	..	...	1	...	1	2	2	1	1	...	1	1	2	1
Saháranpur District.														
Saháranpur	1	...	1	...	..	1	2	1	4	1	1	2	5	..
Total for the Circle	1	1	2	...	1	4	5	3	6	1	2	4	8	1
								II.—Cases compounded under section 67 of the Forest Act.						
Dehra Dún Division	...	1	16	10	1	28	28	28	58	...	...	28	58	...
Saháranpur	...	2	28	8	6	44	44	32	95	12	39	44	134	...
Jaunsár	..	6	9	9	6	30	30	29	50	1	1	30	51	...
Total ...	..	9	53	27	13	102	102	89	203	13	40	103	243	...

ANNUAL FORM No. 51.

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Area of Forest Tracts protected from fire during the dry season of 1888, *to accompany Report for* 1887-88.

Division.	Forest tracts.	Year in which protection commenced.	Area actually protected up to 15th June, 1888.	During dry season of 1888.			Cost during the season	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
	Jumna Range.		Acres.	Acres.	Acres.	Acres.	Rs.	
Dehra Dún	Ambári	1887	3,114	4,203	5	4,198	115	
	Chardpur	1887	2,251	2,251	...	2,251	119	
	Jumna	1886	8,305	8,305	2,558	5,747	194	
	Timli	1884	17,679	19,704	353	19,351	419	
	Malhan Range.							
	Dholkot	1884	4,826	4,826	...	4,826	165	
	Sherpur	1884	9,553	13,922	...	13,922	175	
	Chandrabani	1878	7,289	7,289	...	7,289	216	
	Central Range							
	Ramgarh	1878	10,000	10,232	...	10,232	166	
	Bulawála	1872	14,485	14,525	...	14,525	198	
	Nágsidh	1883	11,568	11,568	...	11,568	193	
	Ganges Range.							
	Kánsrao	1878-81	13,998	14,057	531	13,526	428	
	Motichur	1883	13,673	18,763	178	18,585	154	
	Tirsál	1887	13,836	13,836	362	13,474	419	
	Birbhuddar	1888	.	50	..	50	8	
	Tháno Range.							
	Tháno	1877	4,849	6,576	..	6,576	338	
	Málkot	1888	...	7,106	50	7,056	84	
	Total	...	135,423	157,213	4,037	153,176	3,391	

ANNUAL FORM No. 51.

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Area of Forest Tracts protected from fire during the dry season of 1888, *to accompany Report for* 1887-88.

Division.	Forest tracts.	Year in which protection commenced.	Area actually protected up to 15th June, 1888.	During dry season of 1888.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
	Western Range.		Acres.	Acres.	Acres.	Acres.	Rs.	
Saharanpur	Khára	1879	7,699	9,612	3,038	6,574	186	
	Badshahibág	1883	4,610	7,066	618	6,448	153	
	Chapri	1885	2,705	2,705	1,038	1,127	71	
	Kha'ronwála	1885	2,970	2,970	125	2,845	31	
	Barkala	1885	5,133	5,133	...	5,283	62	
	Kasumri	1885	990	2,579	..	2,579	73	
	Sehánsra	1885	1,000	6,048	...	6,048	49	
	Kotri	1885	..	2,669	..	2,669	30	
	Kálúwála	1885	813	5,116	...	5,116	74	
	Sháhjahánpur	1887	4,299	9,572	1,944	7,628	93	
	Khajnawár	1887	7,992	8,392	1,330	7,062	70	
	Budhában	1887	3,771	3,771	...	3,771	16	
	Mohand	1884	6,129	6,181	88	6,043	174	
	Central Range.							
	Súkh	1884	5,063	5,111	...	5,111	50	
	Chikna	1882	7,782	7,782	...	7,782	20	
	Gáj	1882	3,578	3,578	...	3,578	...	
	Binj	1882	5,719	5,719	..	5,719	15	
	Dholkhand	1880	3,916	3,916	...	3,916	14	
	Maluwála	1880	2,122	2,122	...	2,122	6	
	Bám	1880	3,013	3,013	...	3,013	22	
	Bethan	1882	6,642	6,781	263	6,518	49	
	Gholna	1886	3,746	3,746	43	3,703	48	
	Lalwála	1884	489	499	...	499	60	
	Baniawála	1883	500	500	...	500	57	
	Lakarkot	1879	3,646	3,646	...	3,646	124	
	Ganjarban	1879	2,933	2,933	1,942	991	72	
	Rasulpur	1879	1,987	1,987	1,950	37	34	
	Sendhli	1883	2,558	2,560	112	2,448	135	
	Tira	1884	1,791	1,791	509	1,282	84	
	Eastern Range.							
	Harnaul	1886	2,085	2,085	...	2,085	35	
	Chirak	1886	3,860	3,860	...	3,860	27	
	Rauli	1879	2,976	3,038	..	3,038	6	
	Rani	1879	4,870	4,885	...	4,885	10	
	Malapur	1886	1,354	1,361	...	1,361	56	
	Pathri	1880	672	672	7	665	148	
	Total	...	119,383	143,259	13,607	129,652	2,203	

	Deoban Range							
Jaunsár	Kalsi	1872	2,500	2,500	...	2,500	20	
	Bairát							
	Amlawá						63	
	Cantonment blocks and Forest Garden	1880	555	561	..	561	35	
	Lokandi	1869	5,722	5,722	43	5,679	224	
	Deobán	1872	5,729	5,800	.	5,800	...	
	Ekra	1872	2,670	2,670	...	2,670	65	
	Konain	1872	3 780	3,780	1	3,779	..	
	Karamba	1872	3,808	3,621	..	3,621	.	
	Bawár Range							
	Riknár	1872	4,600	4,600	110	4,490	222	
	Dharagad	1872	4,360	4,400	55	4,345	...	
	Dharmagad	1872	1,270	1,670		1,670	25	
	Bastil	1875	1,512	1,669	...	1,669	84	
	Kanjawár	1884	100	100	..	100	5	
	Deota Range							
	Khúnigád	1879-84	4,593	4,657	780	3,877	263	
	Molta							
	Chatra							
	Hánol							
	Ditto (leased forests)							
	Deota	1879-84	4,937	4,937	...	4,937	182	
	Bamsu		2,323	2,323	...	2,323		
	Surás		1,014	1,014	...	1,014		
	Datmir	1872	2,560	2,560	..	2,560	10	
	Naantwár	1885	3,000	3,000	...	3,000	34	
	Sahlra	1885	7,500	7,500	...	7,500	95	
	Noranu	1885	1,500	1,500	...	1,500		
	Deogarh Range							
	Deogarh	1872-75 1886-87	4,742	4,742	...	4,742	155	
	Raingarh	1880	4,802	5,002		5,002	35	
	Dadi	1880	1,630	1,730	100	1,630		
	Kotigád Range							
	Chansil	1885	13,000	13,000	...	13,000	242	
	Kotigád	1879	3,918	3,968	...	3,968		
	Lambatech	1879	2,773	2,883	25	2,858		
	Total	...	94,898	95,909	1,114	94,795	1,759	
	GRAND TOTAL OF PROTECTED FORESTS	..	349,704	396,381	18,758	377,623	7,353	Two thousand two hundred and forty acres excluded for Tehri leased forests in Dehra Dun Division ceded to the Raja and 1,280 acres of Bashahr forests transferred to Panjab

ANNUAL FORM No. 52—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Area of Plantations, 1887-88.

Division.	Name of Plantation.	Area in acres				Receipts	Charges	Total charges up to 31st March, 1888.	Remarks.
		On 1st April, 1887.	Added during the year	Excluded during the year	Area on 31st March, 1888.	Of the year			
	Regular Plantations	Acres.	Acres.	Acres.	Acres.	Rs	Rs.	Rs.	
Saháranpur	Ferospur (chiefly sissu) ...	80½	...	...	80½		33	1,089	
	Total, Regular Plantations ...	80½	..		80½		33	1,089	
	Cultural operations.								
Dehra Dún	Phandowála (sál) .. .	7½	...	7½	.				
	Ditto (tun, Broussonetia)	.	5½	..	5½	.	.81		
	Ramgarh (sál, bamboos, &c)	80	...	.	80	...	198	5,686	
	Nágsidh (sál, &c)	45	...	45	...				
	Johra (bamboos) and Pardum nursery ...		86	...	86	...	338		
	Cost of abandoned plantation .		...	...	..	..	..	848	
	Total	82½	91½	52½	121½	...	717	6,514	
Saháranpur	Pathri (fire line)	.	2	..	2	..	26	26	
	Kalushahid (bamboos)	13½			13½		69	1,259	
	Ganyarban (chiefly sál)	8½	2½		11½		48	842	
	Bám (sál)	8½	.		8½		10	714	
	Sendhli (sál)	8		.	8	.	86	626	
	Tira (miscellaneous)	1	..	..	1	...	22	647	
	Ghij (sissu)	...					44	121	
	Dhaula (sál nursery)		2	.	2	...	69	72	
	Cost of abandoned plantaton	.				.	.	601	
	Total ..	39½	6½	...	46	..	369	4,908	

Jaunsár ..	Korwa (rai, kail and ban)		27	...	27	...	51	231
	Mohna (deodar, kail, rai, and karshu)	175	6	...	81	...	166	3,654
	Matkángra (moru)	57	4	...	61	...	64	808
	Hajáwa (rai sowings)	3	...	...	3	..	..	15
	Thona (rai, kail, and karshu)	4	.	...	4	...		733
	Kanjátra (rai, and morinda)	22	..	.	22	...	20	536
	Ditto (deodar and kail)	9	.	..	9	...	12	
	Kanasár (ditto)	139		...	139	...	...	1,656
	Bodiar (chiefly deodar) . . .	375	20	...	395	...	338	4,855
	Kosain (deodár)	122	...		122	..	...	2,465
	Jádi (box)		..	...		...	.	4
	Kathian (deodár)	229		...	229	.	60	3,095
	Koti-Bawar (do.)	.	3	...	2	.	15	15
	Mundah (do.)		...		.	...	33	40
	Pártil (do.)	43	5	...	48	..	63	989
	Jaurasi (do.)	10		...	10	...	10	225
	Temple (do.) ...		15	...	15	...	100	100
	Dátmir (box)	2	.	..	2	...	.	57
	Goria (deodar)	10			10		10	104
	Dampti (deodár and kail)	100	...	...	100	...	35	974
	Chakoria (deodár) ..	30	4	...	34	..	40	321
	Gurasna (ditto)		2	...	2	...	20	20
	Morách	13	...	...	13	...	91	298
	Cháchpur (deodár)		15	...	15	...	294	354
	Lurh cantonment (deodár) .. .	65	10	.	75	...	168	1,412
	Suntoh (deodár)	22		.	22		41	492
	Total	1,430	110	...	1,540	.	1,601	23,453
	Total of culturable operations for the circle .	1,552	208¼	52½	1,707¾	..	2,687	34,875

ANNUAL FORM No. 52A.—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Area of cultural operations, 1887-88.

Division	Description.	Area in acres. On 1st April, 1887	Area in acres. Added during the year	Area in acres. Excluded during the year	Area in acres. Area on 31st March, 1888.	Receipts of the year	Charges of the year	Total charges up to 31st March, 1888.	Remarks
Dehra Dún Division	REMOVAL OF INFERIOR SPECIES.								
	Climber cutting								
Central Range	Bulawála	2,880	.	...	2,880	.	.	253	
Ditto	Ramgarh	6,332	.	.	6,332	...	...	409	
Thano Range	Thano	5,912	.	...	5,912	...	114	441	Six hundred and seventy-two acres of previous area were gone over again.
Eastern ,,	Babera	2,570	.	...	2,570	...	..	169	
Malhan ,,	Chandrabani	6 208	1,800	...	8,008	.	134	707	
Jumna ,,	Timli	...	1,044	.	1,044	...	21	21	
Tirsál ,,	Tirsal	..	1,840	...	1,840	..	190	190	
Saháranpur Division.	Total	23,902	4,184	...	28,086	.	459	2,190	
Central Range	Ganjarban	} 1,600	...	...	1,600	.	..	64	
	Rasulpur								
Dehrá Dún Division	Total	1,600	...	...	1,600	...	...	64	
	Total for the Circle	25,502	4,184	..	29,686	.	459	2,254	
	Cutting back of injured stems								
Central Range	Bulawála	1,707	..	..	1,707	..	...	611	
	Ramgárh (Asaroori and Muhammadpur)	925	623	...	1,548	...	183	1,008	
Malhan ,,	Chandrabani (Laldháng)	708	...	...	708	...	. .	571	
Central ,,	Nágaidh (Nawáda)	.	316	...	316	..	353	353	
Thano and Tirsal	Tirsál (Barkot)	...	366	...	366	.	298	298	
	Total	3,340	1,305	.	4,645		834	2,836	
Jaunsár Division	*Ringing inferior species above Deodár advance growth (after fellings).*								
Bawár Range	Kathián	280	...	.	280	.	...		
	Thanwár	510	...	...	510	..	..		
Kotgád ,,	Chakora	227	...	...	227	...	...	226	
	Lohasu	275	...	...	275	...	..		
	Gerasma	165	..	..	165	.	..		
	Partil	...	8	...	8	.	2	2	
Déola ,,	Temple	...	30	..	30	..	8	8	
Deogarh ,,	Rasengarh	..	12	...	12	.	5	5	
	Total	1,457	50		1,507	..	15	241	
	Ringing inferior species to encourage Deodár reproduction (before fellings).								
Kotgád ,,	Banarpáni	140	...	...	140	..	...		
	Chakora	130	...	...	130	...			
	Pártil	200	...	.	200	...	...	62	
Deota ,,	Temple	95	..	...	95	...	...		
	Kanga	50	...	...	50	...	...		
	Patángna	70	..	...	70	...	...		
	Total	685	...	...	685	.	...		
	Total for the Circle	5,482	1,355	...	6,837	...	..	62	
							849	3,139	

FORM No. 53—(PRESCRIBED).

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Trees felled or girdled by Government Agency during the year 1887-88.—(*Selection fellings.*)

Division.	*Trees felled*		Remarks
	Description.	Number	
Dehra Dún	Sál	783	
	Sissu	200	
	Tún	22	
	Total Dehra Dún Division	1,005	
Saháranpur Division	*Nil*	*Nil*	
Jaunsár	Deodár	2,812	
	Oak	580	
	Fir and Pine	571	
	Chír (P longifolia)	18	
	Tún	4	
	Miscellaneous	37	
	Total, Jaunsár Division	4,022	
	Abstract for the Circle—		
	Sál	783	
	Sissu	200	
	Tún	26	
	Deodár	2,812	
	Oak	580	
	Fir and Pine	571	
	Chír (P longifolia)	18	
	Miscellaneous	37	
	Total, Selection fellings	5,027	

ANNUAL FORM No. 54.

Forest Department, School Circle, North-Western Provinces and Oudh.

Outturn of Timber and Firewood during the year 1887-88.

Division.	Description of materials.	Outturn in cubic feet.								Remarks.
		Selection fellings.	Clearances.	Thinnings.	Total.	*Removed by*				
						Government Agency.	Purchasers.	Free grants.	Right holders.	
		I.—Reserved Forests.								
Dehra Dún.	Timber of sorts ... ... c. ft.	28,553	46,703	265,973	341,229	42,149	183,591	146	...	13,664 cubic feet lost by conversion and 101,679 lying in forests.
	Ditto (drift) ... ... „	...	18,458	...	18,458	12,488	5,970	...	...	
	Total, Timber ...	28,553	65,161	265,973	359,687	54,637	189,561	146	...	
	Firewood ... ... c. ft.	...	5,33,897	...	533,897	275,109	256,482	2,306	...	
Saharanpur.	Sál timber ... ... „	...	...	108	108	108	...	...	...	
	Ditto poles and saplings ... „	...	...	1,549	1,549	1,549	...	...	...	
	Miscellaneous ... ... „	...	...	2,876	2,876	...	2,876	...	...	
	Clúr trees ... ... „	3,967	...	...	3,967	...	3,967	...	...	
	Leases of fallen drywood ... ... „	...	...	3,672	3,672	...	3,672	...	...	
	Total, Timber ...	3,967	...	8,205	12,172	1,657	10,515	...	...	
	Firewood ... ... c. ft.	...	...	11,865	11,865	...	11,865	...	...	
	Ditto (leased) ... ... „	...	...	1,14,397	1,14,397	36,890	77,507	...	...	
	Total (Firewood) ...	...	...	1,26,262	1,26,262	36,890	89,372	...	...	
Sál.	Deodár trees ... ... c. ft.	28,400	...	...	28,400	...	5,700	21,500	.	
	Deodár metre gauge sleepers ... „	2,06,346	...	...	2,06,346	*2,06,318	...	28	...	1,200 cubic feet unremoved.
	Ditto pieces ... „	558	...	...	558	558	...	...	...	* 4,400 cubic feet obtained from last year's trees.
	Ditto broad gauge sleepers ... „	3	...	...	3	3	...	...	.	
	Ditto scantlings ... ... „	23,250	...	...	23,250	12,068	...	11,182	...	

JAUN	Ditto bálhs	"			367	367	367			
	Chír trees	"	4,20,560	...	..	4,20,560		3,80,800	39,680	...
	Ditto logs	"	1,200			1,200		1,200		
	Fir and pine trees	"	66,240	...	..	66,240		240	64,960	
	Ditto scantlings	"	5,690	...	..	5,690	5,690	...		
	Ditto balhs	"	..		63	63	63			
	Ditto sleepers, &c.	"	10,853	..	...	10,853	10,853	..		...
	Sal and sain trees	"	265	...	..	265			265	
	Miscellaneous ditto	"	775			775	...	5	770	
	Ditto scantlings	"	172	...	..	172	172			
	Ditto pieces	"	1,478			1,478	417	671	390	...
	Oak trees	"	7,860		..	7,860		1,830	6,030	...
	Do scantlings	"	180	..		180	180			
	Do balhs	"			38	38	38			
	Drift logs	"		5		5	1	4		
	Do pieces (lease)	"	..	511		511		511		
	Kukat tors and balhs	"		127		127		127		
	Haldu pieces	"	420			420		420		
	Total, Timber		7,74,250	643	468	7,75,361	2,36,728	3,91,508	1,44,805	..
	Firewood oak	c ft	41,945	10,250	..	52,195	52,195	..		...
	Ditto fir	"	76,461			76,461	76,461	..	...	...
	Ditto Kukat	"	13,331	..		13,331	...	13,331		
	Ditto (Kalsi lease)	"	..	9,900		9,900		9,900		
	Ditto (loads, &c.)	"	48	1,022		1,070	1,038	32		
	Ditto (removed by villagers)	"		14,60,000		14,60,000			14,60,000	..
	Ditto for torches	"		2,640		2,640	...		2,640	..
	Charcoal	"	2,734	1,858	...	4,592	4,592			..
	Ditto (Kalsi lease)	"		880		880	..	880	..	
	Total, Firewood		1,34,519	14,86,550		16,21,069	1,34,286	24,143	14,62,640	...
	GRAND TOTAL { Timber	c ft	8,06,770	65,804	2,74,646	11,47,220	2,87,805	5,91,584	1,44,951	
	GRAND TOTAL { Firewood	"	1,34,519	20,20,417	1,26,262	22,81,228	4,46,265	3,60,997	14,64,946	

5,400 cubic feet obtained from last year's trees.
80 cubic feet unremoved
1,040 cubic feet unremoved.
2,642 obtained from last year's trees

ANNUAL FORM No. 55.—(Prescribed.)

Forest Department, School Circle, North-Western Provinces and Oudh.

Outturn of Minor Forest Produce during the year 1887-88.

Division.	Description of Produce.		Produce removed or utilized										Remarks.
			By Government Agency.		*By purchasers.*		*By Free grants.*		*By Right-holders.*		*Total.*		
			Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
	1.—*Reserved Forests.*			Rs.		Rs.		Rs.		Rs.		Rs.	
Debra Dún.	Bamboos	No.	30	1	690,224	4,710	...	...	...	...	6,90,254	4,711	
	Bansis	"	...	...	143,300	218	...	...	...	...	1,43,300	218	
	Total, Bamboos	...	30	1	833,524	4,928	...	...	...	...	8,33,554	4,929	
	Grazing (animals)... ...	...	...	...	27,002	6,295	6,201	853	...	...	33,203	7,248	
	Fodder grass (head-loads, &c.) ...	...	...	...	2,285	168	...	...	...	...	2,285	168	
	Total	...	...	...	29,287	6,563	6,201	853	...	...	35,488	7,416	
	Lease of lime-stone ...	...	...	...	..	1,387	...	...	...	...	...	1,387	
	Do. of hides ...	...	...	...	...	151	...	...	...	...	...	151	
	Do. of gum ...	...	...	...	...	1,635	...	...	...	...	...	1,635	
	Do. of boulders ...	...	...	...	...	100	...	...	...	...	...	100	
	Do. of honey and wax ...	...	...	...	...	35	...	...	...	...	...	35	
	Minor produce (leases) ...	...	...	...	...	1,730	...	...	...	...	...	1,730	
	Ditto (passes) ...	...	...	...	...	1,963	...	...	...	...	...	1,963	
	Total	...	...	...	...	7,001	...	...	...	...	...	7,001	
	Total, Debra Dún Division	...	...	1	...	18,492	...	853	...	...	...	19,346	
par.	Bamboos	No.	...	...	29,650	143	...	...	...	...	29,650	143	
	Ditto (lease) ...	"	...	...	770,560	4,816	...	...	...	...	7,70,560	4,816	
	Total, Bamboos	...	...	...	800,210	4,959	...	...	...	...	8,00,210	4,959	
	Grazing (animals) ...	No.	...	...	25,102	4,588	...	...	...	...	25,102	4,588	
	Ditto (lease of Kasumri fair)	...	...	...	4,000	1,000	...	...	...	...	4,000	1,000	
	Ditto (collection through Collector)	...	...	...	36,065	8,241	4,840*	666	...	...	40,905	8,907	* Privileged villages.
	Fodder grass	...	...	...	...	214	...	...		...	...	214	
	Total	...	...	...	65,167	14,043	4,840	666	...	...	70,007	14,709	

Sahárán	Grass	...	...	...	.	177	...	...			..	177
	Leaves	...	...			475					..	475
	Stones	.	..			294	...	..	.			294
	Gum					83		...	.	..		83
	Fencing thorns			...	..	33	...	.	...			33
	Kanda and saral	...	..		...	33	..	...				33
	Fruits	...				19		.	...			19
	Mála branches	.	...	...	.	26	...	.	...	.		26
	Creeper	..		...	...	11	...			.	..	11
	Miscellaneous	.		...	...	64		.	...	...	...	64
	Lease of minor produce	...	..	...		5,464	...	.	.	.		5,464
	Total		.	...		6,679		...		...	.	6,679
	Total, Sahárán pur Division	...			...	25,681	..	666	..			26,347
Jaunsár	Ringals	...		...	4,07,900	255	..			...	4,07,900	255
	Bamboos	.			960	12	1,000	2	.		1,960	14
	Total, Bamboos			...	4,08,860	267	1,000	2	.		4,09,860	269
	Grazing (animals)		.	.	5,287	1,767	31,900	4,320	.		37,187	6,087
	Fodder grass (loads)	..	13½	2	220	14		2,000				2,016
	Total		...	2	...	1,781	.	6,320	...	...		8,103
	Minor produce	.	.	29		220	...	500				749
	Total, Jaunsár Division		.	31	...	2,268	..	6,822		.		9,121
The Circle.	Bamboos		30	1	20,42,594	10,154	1,000	2	.		20,43,624	10,157
	Grazing and fodder grass		...	2	...	22,387	...	7,839	..	.		30,228
	Minor produce	..	...	29	...	13,900	..	500	..	..	..	14,429
	Total	..		32		46,441		8,341	..	..	...	54,814

ANNUAL FORM No. 5C—(PRESCRIBED).

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôt or sold locally, during the year 1887-88

	Particulars.	No. or quantity	Cubic feet	Total of each head: No or quantity	Total of each head: Cubic feet.
	Balance in hand on 1st April, 1887				
Dehra Dún Division.	Miscellaneous ballas, ballis, &c	8,013	19,253		
	Tarans	1,271	1,271		
	Drift logs and pieces	29	116		
	„ scantlings	43	79		
				9,356	20,719
	„ firewood		6,984	..	6,984
Saháranpur Division.	Sal timber	71	153		
	„ poles	1,042	1,457		
	„ saplings	430	578		
				1,543	2,188
Jaunsár Division	Deodár scantlings	3,741	7,264		
	Metre gauge Deodar sleepers	42,565	65,139		
	Broad gauge ditto	296	1,168		
	Broad gauge and metre gauge pieces,	288	701		
	Chír broad gauge sleepers	1,284	4,686		
	Ditto metre gauge ditto	46	192		
	Shikanjas and beams	949	4,620		
	Fir and pine scantlings	1,892	3,043		
	Oak ditto	6	6		
	Rai ballis	1	7		
	Sal ditto	33	33		
	Miscellaneous	396	33		
				51,487	86,892
	Firewood, oak	...	27,111		
	Ditto, fir	...	45,100		
					72,211
	Charcoal	...	1,439		
					1,439
	Firewood (loads)	68	126		
				68	126
	Fodder grass ditto	42			
				42	

	Particulars	No or quantity	Cubic feet.	Total of each head: No. or quantity	Total of each head: Cubic feet
	Removed by purchasers from Depôts				
	Sál ballas and tors	5,500	3,132		
	Kukat ditto	11,571	29,857		
	Sal ballis	2,100	1,766		
	Kukat ballis and tarans	7,635	11,355		
	Sissu logs	47	491		
	Miscellaneous scantlings	1,079	1,260		
	Sal timber	60	196		
	Do poles	237	781		
	Do saplings	430	522		
	Metre gauge deodár sleepers	1,08,882	1,67,537		
	Broad gauge ditto	5	17		
	Deodar scantlings	4,992	6,658		
	Broad gauge chir sleepers	1,065	3,902		
	Fir and pine scantlings	3,566	3,920		
	Rai ballis	61	22		
	Oak scantlings	497	99		
	Ditto ballis	13	13		
	Firewood, oak		38,960	1,47,766	231,518
	Ditto fir	...	71,167		
	Ditto miscellaneous		100,436		
					210,563
	Ditto, (loads)	37	74	37	74
	Charcoal		2,260½	...	2,260½
	Sold locally				
	Firewood, oak	..	5,685		
	Ditto, miscellaneous		36,890		42,575
	Ditto, (loads)	27	54	27	54
	Ditto, (maunds)	24—10	48	24—10	48
	Charcoal		1,565		1,565
	Fodder grass loads	99		99	

Total, Balance.	Timber	...	...	...	62,386	109,799
	Firewood	...	...	...	...	79,195
	Ditto (loads)	...	...	...	63	126
	Charcoal	...	...	...	..	1,439
	Fodder grass (loads)	...	...	...	42	...
Received from the Forests in Depôts.						
Sál ballas and tors		...	...	8,381	8,799	
Sain ditto		...	...	80	107	
Kukat ditto		...	..	7,411	17,411	
Sál, ballis		...	...	2,532	2,133	
Sain ditto		..	...	23	20	
Kukat ballis and tarans			...	4,379	5,260	
Sissu logs		..	...	252	2,353	
Miscellaneous scantlings		..		1,079	1,260	
Sál timber		...	..	27	108	
Do. poles		..	...	668	1,280	
Do. saplings		...	...	210	280	
Metre gauge deodár sleepers			...	1,34,020	2,06,318	
Broad gauge ditto		.	.	1	3	
Metre gauge pieces		...		372	558	
Deodár scantlings		..		13,568	12,068	
Ditto ballis		...	.	276	397	
Kail sleepers		..	...	761	2,642	
Rai sleepers and beams		...	..	2,033	8,211	
Fir and pine scantlings		...	.	4,919	5,690	
Rai ballis		...	..	81	63	
Oak scantlings		...	...	589	180	
Oak ballis		...	..	38	38	
Shikanjas and beams		..	..	25	172	
Miscellaneous pieces		...	...	2,536	417	
Drift log		...	...	1	1	
					184,216	275,818
Firewood oak		...	.	...	41,960	
Ditto fir		...	.	...	76,461	
Ditto (miscellaneous)		.	..	...	187,936	
						306,357
Ditto (loads)		...	...	468	936	
					468	936
Charcoal		...	...	...	2,827	
					..	2,827

Drift timber sold locally.						
Logs and pieces	...	...	.	1,029	7,774	
Scantlings	...	...	...	269	688	
Ballas and tors	...	...	..	335	510	
Ballis and tarans	...	...	...	62	85	
						1,695	9,057
Firewood, miscellaneous	...	...	...	.	37,387	...	37,387
Lost or written off.						
Metre gauge deodár sleepers		...	..	1,307	1,961		
Metre gauge chír ditto	...		...	32	138		
Deodár scantlings	...		...	82	58		
						1,421	2,157
Firewood, oak		..	...	...	10		
Ditto, fir		...	...	...	24		
						42	34
Fodder grass, loads		...	...	42	...		
Used by Department.						
Sál trees	...	...	...	1,248	4,230		
Tun do.	...	...	...	22	486		
Drift logs and pieces		...	...	31	545		
Do. ballis		..	...	15	13		
Sál timber		.	...	12	18		
Do. poles		...	...	110	352		
Do. saplings		...	...	25	30		
Metre gauge deodár sleepers			...	111	165		
Broad gauge ditto		.	...	157	558		
Deodár scantlings		...	...	7,893	6,289		
Do. ballis	...		...	138	181		
Kail sleepers		.	...	4	18		
Fir and pine scantlings		..	...	1,597	2,443		
Sál ballis	..		...	21	21		
Oak scantlings		...	...	73	66		
Do. ballis	..		...	25	25		
Shikanjas and beams		...	...	825	3,963		
Miscellaneous		...	.	2,533	411		
						14,840	19,744
Firewood, oak		...	..	...	4,550	...	4,550
Charcoal	...	...	...	...	450½	...	450½
Bamboos	...	...	...	No. 30	...	30	
Transfered to other Divisions.							
Metre gauge deodár sleepers		...	..	90	135		
Broad gauge ditto	...		..	50	324		
Broad gauge chír ditto	...		...	40	140		
Kail sleepers		..	..	20	96		
Rai sleepers and beams		...	..	30	124		
						230	819

ANNUAL FORM No. 56.—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Account of Timber and other Produce cut or collected by Government Agency and brought to sale Depôts or sold locally during the year 1887-88—(continued).

Particulars.	No or quantity	Cubic feet	Total of each head: No or quantity	Total of each head: Cubic feet
Departmental collection of drift timber from the Ganges				
Logs and pieces	1,636	11,116		
Scantlings	258	602		
Ballas and tors	398	606		
Ballis and tarans	78	102		
			2,370	12,468
Firewood		87,173		
				87,173
Bamboos	30			
			30	
Received from the Forests and used by the Department				
Sal trees	1,248	4,230		
Tun trees	22	486		
			1,270	4,716
Firewood, oak		4,550		
				4,550
Charcoal		200		
			...	200

Particulars.	No or quantity	Cubic feet	Total of each head: No or quantity	Total of each head: Cubic feet
Balance at close of the year				
Dehra Dun Division				
Sál ballas and tors	2,831	5,667		
Sain ditto	80	197		
Kukat ditto	1,160	1,441		
Sal ballis	432	377		
Sain ballis	23	20		
Kukat ballis and tarans	708	542		
Sissu logs	205	1,862		
Drift logs and pieces	605	2,933		
Do scantlings	32	53		
Do ballas and tors	63	98		
Do ballis	1	4		
			6,140	13,194
Firewood		87,500		
Ditto (drift)	...	56,770		
				144,270
Saharanpur Division				
Sál timber	26	47		
Sál poles	1,358	1,604		
Sál saplings	179	295		
			1,563	1,946
Jaunsár Division.				
Metre gauge deodar sleepers	66,204	1,01,659		
Broad gauge deodar sleepers	75	272		
Broad gauge and metre gauge pieces	660	1,259		
Deodár scantlings	4,343	6,377		
Ditto ballis	136	186		
Broad gauge chir sleepers	159	644		
Metre gauge ditto	14	54		
Fir and pine scantlings	1,649	2,370		
Rai sleepers and beams	1,979	7,901		
Rai ballis	21	48		
Kail sleepers	724	2,476		
Kail pieces	13	52		

Received from the Forests and sold locally.

Firewood, oak	...	...	...	...		5,685			861 ballis	...	...	...	...	12	12		
Ditto, miscellaneous	...	...	...	...		36,890	...	42,525	Oak scantlings	...	...	...		25	21		
									Broad gauge Rai pieces	...	...	...		24	96		
Ditto, loads	...	...	...		27	54	27	54	Shikanjas and beams	...	...	...		149	829		
Ditto ...	...	...		Mds.	24-10	48	24-10	48	Miscellaneous pieces	...	...	...		399	39		
Charcoal ...	...	...		"	...	1,565	...	1,565	Drift log ...	...	...	...		1	1		
Fodder grass, loads	...	...	...		99	...	99	...								76,587	134,386
									Firewood, oak ...	...	...	...		...	30,101		
									Ditto, fir ...	...	...	...		...	50,370		
																...	80,471
									Ditto, load	...	...	...		494	988		
																494	988
									Charcoal ...	...	...	...		...	1,749	...	1,749
									Total balance — Timber	...	...	...		...	...	84,290	132526
									Total balance — Firewood	...	...	...		...	...	...	224,741
									Total balance — Ditto load	...	...	...		...	...	494	988
									Total balance — Charcoal	...	...	...		...	...	...	1,749
Grand Total — Timber	...	...	...	...	...	...	250,242	402,831									
Grand Total — Firewood	...	...	...	...	...	...	...	519,850	Grand Total, Timber	...	...	...	...	...	...	250,242	402,831
Grand Total — Ditto loads	...	...	...	...	...	...	558	1,116	Grand Total, Firewood	...	...	...	...	...	...	...	519,850
Grand Total — Ditto	...	...	Mds.	...	...	...	24-10	48	Grand Total, Ditto loads	...	...	...	...	...	...	558	1,116
Grand Total — Charcoal	...	...	...	...	...	...	...	6,031	Grand Total, Ditto	...	...	Mds.	...	...	...	24—10	48
Grand Total — Bamboos	...	...	No.	...	...	...	30	...	Grand Total, Charcoal	...	...	...	...	...	...	...	6,031
Grand Total — Fodder grass (loads)	...	...		...	...	...	141	...	Grand Total, Bamboos	...	...	...	...	...	...	30	...
									Grand Total, Fodder grass (loads)	...	...	...	...	...	...	141	...

FORM No. 57.

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Abstract showing the value of Live and Dead Stock for the year 1887-88.

Description of Live and Dead Stock.	*On hand at commencement of the year.*		*On hand at close of the year.*		*Difference in value.*	
	Number.	Value.	Number.	Value.	In favor of the year.	Against the year.
		Rs.		Rs.	Rs.	Rs.
Direction Division.						
Office furniture	37	354	43	565	211	...
Tents	4	500	0	718	218	...
Buildings and building materials	11	36,443	11	36,443	...	...
Miscellaneous	16	77	20	88	11	...
Elephant	1	2,000	1	1,700	...	300
Total ..	...	39,374	...	39,514	440	300
Dehra Dún Division.						
Surveying and other instruments	82	238	84	251	13	...
Tools	1,799	1,174	1,890	1,165	...	9
Office furniture	341	733	397	811	78	...
Tents	15	476	15	393	...	83
Buildings and building materials	98	16,080	97	19,888	2,008	...
Miscellaneous	454	634	481	726	92	...
Elephants	1	2,800	1	2,800	...	...
Total ...	...	23,035	...	26,034	3,091	92
Saháranpur Division.						
Surveying and other instruments ...	14	71	14	71	...	...
Machinery	18	44	18	44	...	...
Tools	732	259	765	343	84	...
Office furniture	137	747	141	770	32	...
Tents	5	348	5	348	...	...
Buildings and building materials	27	6,278	30	6,610	332	...
Miscellaneous	435	970	527	1,373	397	...
Elephant	1	1,700	1	1,700	...	...
Total ...	...	10,423	...	11,268	845	...
Jaunsár Division						
Surveying and other instruments ...	41	360	46	371	11	...
Machinery	13	97	11	97	...	...
Tools	2,407	2,807	2,205	2,602	...	175
Office furniture	50	408	49	452	44	...
Tents	0	215	8	259	44	...
Buildings and building materials ...	359	33,468	357	34,492	1,024	...
Miscellaneous	478	427	532	546	119	...
Total ...	...	37,842	...	38,009	1,242	175
GRAND TOTAL ...	...	110,074	...	115,725	5,618	567

Net difference in favor of the year, Rs. 5,051.

ANNUAL FORM No. 57.—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh

Abstract showing the value of timber and other produce at sale Depôts for the year 1887-88

Description of timber and other produce	On hand at commencement of the year			On hand at close of the year			Differences in value	
	No	C ft	Value	No	C ft	Value	In favor of the year	Against the year
Dehra Dún Division			Rs			Rs	Rs	Rs
Sál ballas and tors		...		2,831	5,667	3,093	3,093	
Sain ditto	...			80	197	97	97	
Kukat ditto			..	1,160	1,441	503	503	
Sal ballis		.	.	6432	577	257	257	.
Sain ditto				23	20	15	15	...
Kukat ballis and tarrans	9,284	20,524	5,803	708	542	95	.	5,708
Sissu logs	.	.	...	205	1,862	1,103	1,103	..
Drift logs and pieces ..	29	116	16	605	2,913	733	718	.
Ditto scantlings ...	43	79	12	32	53	32	20	
Ditto ballas and tors		...	...	68	98	60	00	
Firewood ...		..	.		87 500	3,500	3,500	.
Ditto drift		6,984	698		55,770	2 498	1,800	
Total .			6,529	..		12,136	11,316	5,708
Saharanpur Division								
Sál timber	71	153	58	26	47	19	.	39
Ditto poles	1,042	1,457	546	1,358	1,804	594	48	.
Ditto saplings	480	578	217	179	295	115		102
Total			821	..	.	728	48	141
Jaunsár Division								
Broad gauge deodár sleepers .	280	1,108	576	75	272	150	...	426
Metre ditto ..	42,505	35,130	58,527	66,204	101,650	92,282	33,755	
Deodár scantlings .	3,741	7,284	7,482	4,343	6,877	6,515		967
Metre gauge chir sleepers	46	192	35	14	54	10		25
Broad gauge ditto	1,284	4,980	1,124	150	644	119		1,005
Pine and fir shukanyas	84	581	21	}				
Tun ditto ..	283	1,132	71	} 149	829	80	...	157
Miscellaneous ditto	582	2,907	145					
Metre gauge and broad gauge pieces	288	701	175	600	1,259	330	155	
Miscellaneous ditto	306	33	25	399	39	150	125	
Sál ballis	38	38	2	12	12	1	.	1
Pine and fir scantlings ...	941	1,104	823	} 1,049	2,370	880	...	463
Chir karris	951	1,879	476					
Deodár ballis			...	130	186	130	136	..
Rail sleepers and beams				1,979	7,991	3 959	3,959	
Rai ballis	1	7	1	21	48	21	20	..
Kail sleepers .	..	.	.	724	2,476	1,448	1,448	...
Kail pieces ..	.			13	52	6	6	...
Oak scantlings ...	6	6		25	21	13	13	
Broad gauge rail pieces	..	..		24	96	6	6	
Drift log	..			1	1	2	2	
Oak and fir firewood	.	72,211	12,720		80,471	15,672	1,952	
Firewood (loads)	63	126	4	494	988	16	12	
Charcoal	...	1,439	275		1,749	358	83	
Fodder grass (loads)	42	...	1	..				1
Total ...			83,483			1,22,104	41,072	3,051
Grand Total .			90,832			1,34,968	53 036	8,900

Net difference in favor of the year, Rs 44,136.

ANNUAL FORM No. 58.—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Summary of Revenue of the different Divisions, during 1887-88.

Budget Heads.	Direction.	Sahéranpur Division.	Dehra Dún Division	Jaunsár Division	Total.
Receipts.					
I.—*Timber and other produce removed from the Forests by Government agency* —	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
a Timber	...	564 8 6	12,859 9 3	1,87,485 14 10	2,00,910 0 7
b Firewood and charcoal	...	1,084 0 0	2,528 10 0	23,726 7 9	27,339 1 9
c Bamboos	...	...	...	...	...
d Sandal-wood	...	...	...	...	...
e. Grass and other minor produce	...	...	...	30 10 9	30 10 9
II.—*Timber and other produce removed from the Forests by consumers or purchasers* —					
a. Timber	...	2,220 15 4	31,951 1 0	18,014 12 1	52,186 12 5
b Firewood and charcoal	...	2,769 9 3	4,672 1 0	499 5 1	7,940 15 4
c Bamboos	...	4,958 13 3	4,928 4 1	267 0 0	10,154 1 4
d Grazing fodder	...	12,690 9 7	6,822 3 3	1,778 0 9	21,220 13 7
e. Other minor produce	...	7,427 2 1	6,844 1 0	220 0 0	14,491 3 1
III.—*Confiscated drift and waif wood*	...	...	4,542 9 2	91 15 2	4,634 8 4
IV.—*Revenue from Forests not managed by Government*					
a Duty on Foreign Timber and other Forest produce	...	...	...	14,398 10 6	14,398 10 6
b Revenue from shared and private forests	...	...	...	...	...
V.—*Miscellaneous* —					
a. Fines and forfeitures	...	143 0 0	...	...	143 0 0
b Refunds	106 14 6	13 14 9	50 0 0	118 13 0	289 10 3
c Other sources	657 2 10	240 13 1	190 8 2	2,306 5 4	3,394 13 5
Total ...	764 1 4	32,043 5 10	75,388 14 11	2,48,937 15 8	3,57,134 5 4

Calcutta:
The 6th June, 1888

J. TAYLOR,
Assistant Comptroller General (Forests).

ANNUAL FORM No 58 — (PRESCRIBED).

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH

Summary of Expenditure of the different Divisions, during 1887-88.

BUDGET HEADS A —CONSERVANCY AND WORKS	Direction	Dehra Dún Division	Saháranpur Division	Jaunsár Division	Total
	Rs a. p	Rs a. p	Rs a. p	Rs a. p	Rs a. p
I —*Timber and other produce removed from the Forests by Government Agency*—					
(*a*) Timber	..	4,741 1 2	624 7 7	1,04,333 5 3	1,09,698 14 0
(*b*) Firewood and charcoal	..	1,364 12 4	209 7 0	7,673 8 2	9,247 11 6
(*c*) Bamboos	...			...	
(*d*) Sandal wood	..				
(*e*) Grass and other minor produce	...			19 13 0	19 13 0
II —*Timber and other produce removed from the Forests by Consumers or Purchasers*	..	1,454 12 8	227 15 9		1,682 12 5
III —*Drift and waif wood and confiscated Forest Produce*	..	4,569 7 1		..	4,569 7 1
IV —*Revenue from Forests not managed by Government*—					
(*a*) Duty on foreign timber and other forest produce	...			2,334 6 0	2,334 6 0
(*b*) Revenue from shared and private forests	..			..	..
V —*Rent of leased Forests and payments to shareholders in Forests managed by Government*	...	351 0 0		11,150 0 0	11,501 0 0
VI —*Live Stock, Stores, Tools and Plant*—					
(*a*) Purchase of cattle					
(*b*) Feed and keep of cattle	749 10 4	654 7 2	685 13 11		2,089 15 5
(*c*) Purchase of stores, tools and plant	459 7 8	427 2 9	545 6 3	572 12 4	2,004 13 0
VII.—*Communications and Buildings*—					
(*a*) Roads and bridges	7 2 4	4,030 1 7	1,020 11 8	2,480 11 9	7,538 11 4
(*b*) Buildings	1,445 14 10	5,158 11 8	1,326 0 10	8,548 5 7	16,479 0 11
(*c*) Other works	195 6 9	..	99 14 6	194 8 5	489 13 8
VIII —*Demarcation, improvement and extension of Forests*—					
(*a*) Demarcation	..	771 9 5	515 15 2	467 6 2	1,754 14 9
(*b*) Compensation for land and rights					
(*c*) Surveys and working plans	63 6 0		..	4,076 6 8	4,139 12 8
(*d*) Sowing and planting		716 14 6	402 0 1	1,601 10 5	2,720 9 0
(*e*) Protection from fire		3,493 13 4	2,545 12 4	1,793 2 10	7,832 12 6
(*f*) Other works		1,580 11 6	49 3 6	1,485 1 10	3,115 0 10
IX —*Miscellaneous*—					
(*a*) Refunds		25 0 0	48 7 9	..	73 7 9
(*b*) Law charges		2 1 0	9 3 0	4 4 0	15 8 0
(*c*) Other charges	1,091 13 6	1,089 9 2	202 13 7	1,043 6 4	3,377 10 7
Total A.—Conservancy and Works	3,949 7 5	30,434 9 4	8,513 4 11	1,47,778 12 9	1,90,676 2 5

CALCUTTA
The 6th June, 1888

JAS TAYLOR,
Assistant Comptroller General (Forests)

ANNUAL FORM No. 58.—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Summary of Expenditure of the different Divisions, during 1887-88.

Budget Heads	Direction.	Dehra Dún Division	Saháranpur Division	Jaunsár Division	Total.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Brought forward, Total A—Conservancy and Works	3,949 7 5	30,634 9 4	8,513 4 11	1,47,778 12 9	1,90,676 2 5
B—Establishments.					
I—*Salaries*—					
(a) Conservator	12,000 0 0	...			12,000 0 0
(b) Superior Officers	1,250 0 0	8,181 4 9	6,446 12 3	17,323 13 2	33,201 14 2
(c) Subordinate Forest and Depôt Establishments	..	6,984 8 5	5,823 2 6	6,518 13 6	19,326 8 5
(d) Office Establishments	2,704 0 0	2,082 12 9	1,342 14 4	2,068 10 0	8,198 5 1
(e) Deputation and Special Allowances	...	..	...	...	...
II—*Travelling Allowances*—					
(a) Conservators	1,234 8 0	...	...		1,234 8 0
(b) Superior Officers	271 10 0	1,529 4 8	969 2 0	2,461 0 0	5,231 0 8
(c) Subordinate Forest and Depôt Establishments		977 15 6	348 11 6	1,104 13 6	2,431 8 6
(d) Office Establishments	24 3 0	103 4 0	77 11 0	89 11 0	294 13 0
Contingencies—					
(a) Stationery	3 4 0	59 9 0	34 14 6	45 10 6	143 6 0
(b) Carriage of Tents and Records	302 4 0	283 7 5	254 15 6	247 3 8	1,087 14 7
(c) Rents, Rates and Taxes	..	360 0 0	..	4 0 0	364 0 0
(d) Pay of Police Guards	...			...	
(e) Official Postage	148 10 6	106 3 0	111 11 6	139 2 6	505 11 6
(f) Sundries	1,502 15 5	546 14 5	248 7 9	597 11 3	2,896 0 10
Total B—Establishments	19,441 6 11	21,215 3 11	15,658 6 10	30,600 9 1	86,915 10 9
Grand Total of Expenditure	23,390 14 4	51,849 13 3	24,171 11 9	1,78,379 5 10	2,77,591 13 2

Calcutta.
The 6th June, 1888.

Jas Taylor,
Assistant Comptroller-General (Forests).

ANNUAL FORM No. 59.—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Account Current for the year 1887-88.

	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
To cash balance	...	...	By expenditure as per Annual Summary Form No. 58 ...	...	2,77,591 13 2
„ VIII.—Assessed Taxes—			„ Deposits	...	3,246 0 0
Income-tax—deductions from salaries	...	1,303 12 0	„ Forest cash remittances—Local—		
„ Revenue as per Annual Summary Form No. 58	...	3,57,134 5 4	Remittances to Treasuries	1,42,263 9 3	
„ Service funds—			Inter-divisional transfers	4,883 2 4	
Civil fund—Ordinary, Bengal	...	...			1,47,146 11 7
„ additional, Bengal	...	...	„ Advances recoverable	...	1,64,072 4 9
Military fund—Bengal	...	...	„ Suspense	...	1,451 5 4
„ „ Madras	...	...	„ Account current (other Governments)—		
„ „ Orphan fund—Bengal	...	...	Remittances to the Government of India	...	1,025 10 0
Uncovenanted Service Family Pension Fund—Bengal ...	526 3 0	...			
General Family Pension Fund	...	...			
Hindu Family Annuity Fund	...	...			
		526 3 0			
„ Deposits	...	2,042 0 0			
„ Forest cash remittances—Local—					
Forest cheques drawn	2,79,844 14 3	...			
Inter-divisional transfers	5,243 13 6	...			
		2,84,588 11 9			
„ Advances recoverable	...	1,52,841 10 10			
„ Suspense	...	1,452 9 4			
„ Account current—(other Governments)—					
Remittances from Government of India	1,896 8 3	...			
Ditto Bengal	5 0 0	...			
		1,901 8 3			
„ Inter-departmental transfer—			„ Inter-departmental transfers—		
Public Works Department. Other branches	8,874 12 1	...	Public Works Department State Railways Rájputána and Malwa,	1,68,842 13 0	...
Military Department, Bengal	51 14 9	...			
Civil Department—			Ditto Other branches	25,752 15 11	...
Jail	...	...	Military Department, Bengal	21,497 10 10	...
Mathematical Instrument Department	34 8 0	...	Civil Department, Bengal Miscellaneous	65 8 4	...
Miscellaneous	...	..			2,16,158 15 9
Survey of India Department	441 7 0	...	„ Cash balance	...	...
		9,402 9 1			
Total ...	..	8,10,692 12 7	Total ...	...	8,10,692 12 7

Calcutta:
The 6th June, 1888.

Jas. Taylor,
Asst. Comptroller-General, (Forests).

ANNUAL FORM No. 60.—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Revenue received and Outstandings on account of Revenue, during 1887-88.

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year	Total	Amount realised during year	Balance due to the Department at end of year.
		Rs a p	Rs a p	Rs a p	Rs a p	Rs a p
Direction	Sale proceeds of timber and other forest produce.		764 0 0	764 0 0	764 0 0	
Dehra Dún	Ditto ditto	11,526 11 0	70,067 5 5	81,594 0 5	75,388 14 11	6,205 1 6
Saháranpur	Ditto ditto ...	6,855 15 0	33,912 15 1	40,768 14 1	32,043 5 10	8,725 8 3
Jaunsár	Ditto ditto	2,872 12 6	2,54,597 5 8	2,57,470 2 2	2,48,937 15 3	8,532 2 11
	Total ...	21,255 6 6	3,59,341 10 2	3,80,597 0 8	3,57,134 4 0	23,462 12 8

ANNUAL FORM No. 61.—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Outstandings and Liabilities on account of Contractors and Disbursers for 1887-88.

Division.	Department Debtor			Department Creditor			Balance Due	
	At commencement of year	Recoveries in cash and value of supplies and work done during the year.	At close of year	At commencement of year	Payments made during year	At close of year	To Department (outstandings)	By Department (liabilities)
	Rs a p.	Rs. a. p.	Rs a. p.	Rs a p	Rs a p	Rs a p	Rs a p	Rs a p.
Direction ...	.	3,206 11 9	3,206 11 9	206 4 3	3,242 7 3	3,548 11 6	288 4 9	6 5 0
Dehra Dún,	1 5 3	36,380 2 8	36,387 7 11	1,775 13 10	36,460 12 3	38,236 9 1	1,850 0 5	1 5 3
Saháranpur,	.	8,406 6 10	8,406 0 10	819 6 8	8,202 5 4	9,021 12 0	547 5 7	22 0 5
Jaunsár ..	.	1,04,192 5 7	1,04,192 5 7	13,972 1 3	1,16,166 11 11	1,30,138 13 2	25,946 7 7	..
Total ..	1 5 3	1,52,341 10 10	1,52,343 0 1	16,873 9 0	1,64,072 4 9	1,80,945 13 9	28,632 8 4	29 10 8

ANNUAL FORM No. 62.—(Prescribed).

Forest Department, School Circle, North-Western Provinces and Oudh.

Financial results of the year 1887-88.

Division.	*Timber and other produce removed from the forests by Government Agency*		*Other revenue*		*Formation, protection and improvement of forests.*	*Total.*	
	Receipts	Charges	Receipts	Charges	Charges	Receipts	Charges.
	Rs	Rs	Rs	Rs	Rs	Rs	Rs
Direction ...		7,797	764	7,797	7,797	764	23,391
Dehra Dún .	15,388	6,100	60,001	8,956	36,588	75,389	51,050
Saháranpur ...	1,048	834	30,495	9,540	13,789	32,043	24,172
Jaunsár	2,11,243	1,25,844	37,695	5,330	47,205	2,48,938	1,78,379
Total	2,28,279	1,40,581	1,28,955	31,632	1,05,379	3,57,134	2,77,592

Appendix A

Forest Department, School Circle, North-Western Provinces and Oudh.

Statement of trees felled during the year 1887-88.

	Description of trees.	Selection fellings: By Government agency — Number	Selection fellings: By Government agency — Cubic feet	Selection fellings: By contractors — Number	Selection fellings: By contractors — Cubic feet	Selection fellings: By grantees — Number	Selection fellings: By grantees — Cubic feet	Selection fellings: Total — Number	Selection fellings: Total — Cubic feet	Thinnings: By Government agency — Number	Thinnings: By Government agency — Cubic feet	Thinnings: By contractors — Number	Thinnings: By contractors — Cubic feet	Thinnings: By grantees — Number	Thinnings: By grantees — Cubic feet	Thinnings: Total — Number	Thinnings: Total — Cubic feet	Clearances: By Government agency — Number	Clearances: By Government agency — Cubic feet	Clearances: By contractors — Number	Clearances: By contractors — Cubic feet	Clearances: By grantees — Number	Clearances: By grantees — Cubic feet	Clearances: Total — Number	Clearances: Total — Cubic feet	Grand Total — Number	Grand Total — Cubic feet	Remarks
Dehra Dun Division	Sál	783	3,998	29	290	14	84	826	4,372	6,967	48,404	7,810	55,240	..	..	14,777	103,644	540	261	33	391	102	62	675	714	16,278	108,730	
	Sain			651	6,510			651	6,510	246	4,638	83	1,188			329	5,826			4	46	...		4	46	984	12,382	
	Sisu	200	4,500	65	1,465			265	5 965		...					..		...	.	.				.		265	5,965	
	Tún	22	486	.	.		...	22	486							...			.					...		22	486	
	Miscellaneous			992	11,220			992	11,220	21,149	89,053	27,580	67,450			48,729	156,503			101	247			101	247	49,822	167,970	
	Total { 1887 88,	1,005	8,984	1,737	19,485	14	84	2,756	28,553	28,362	142,095	35,473	123,878	..	..	63,835	265,973	540	261	138	684	102	62	780	1,007	6",371	295,533	
	{ 1886-87,	1,899	5,634	763	10,521	32	291	2,674	16,446	23,652	47,753	7,725	75,240	..	..	31,377	122,998	.	.	..		.	.			34,071	139,439	
Saharanpur Division	Sál									900	1,657	..				900	1,657			..		..	..	..		900	1 657	
	Chír	..		125	3,967			125	3,967					..	..	...			...	.	...					125	3,967	
	Miscellaneous	.				...	.				..	2,564	2,876			2,564	2,876		.	.						2,564	2,876	
	Total, { 1887 88,		...	125	3,967	..		125	3,967	900	1,657	2,564	2,876	..	..	3,464	4,533				..					3,589	8,500	
	{ 1886-87,			42	274	..		42	274	1,894	2,601	1,895	2,408	..	..	3,789	5,069	...	.	...	..	..	..		.	3,831	5,343	
Jaunsár Division	Deodár	2,812	281,200	57	5,700	215	21,500	3,084	308,400	367	367	..		..	..	367	367	...						.		3,451	308,767	
	Chír	18	1,440	4,760	380,800	496	39 680	5,274	421,920			...		.	.	.				..		...	..			5,274	421,920	
	Fir and pine	571	102,701	3	240	812	64,960	1,386	167,901	63	63			..	..	63	63		..	.		.	.	..		1,449	167,964	
	Sal					53	265	53	265			.	...			..		...	. .	..		..				53	265	
	Oak	580	44,859	61	1,830	201	6,030	842	52,719	38	38			...		38	38	3,050	12,121	...	...	..	..	3,050	12,121	3,930	64,878	
	Tún	4	20	.	.	..		4	20									...		.		.				4	20	
	Miscellaneous	37	185	1	5	154	770	192	960											...						192	960	
	Total, { 1887 88,	4,022	430,405	4,882	388,575	1,931	133,205	10,835	952,185	405	468					468	468	3,050	12,121		...	...	.	3,050	12,121	14,353	964,774	
	{ 1886-87,	2,573	282,829	1,691	134,185	1,088	76,475	5,352	493,489	4,602	12,031					4,602	12,031		..							9,954	506,520	
Circle	Sal	783	3,998	29	290	67	349	879	4,637	7,867	50 061	7,810	55,240	..	..	15,677	105,301	540	261	33	391	102	62	675	714	17,231	110,652	
	Sain			651	6,510			651	6,510	246	4,638	83	1,188			329	5,826		..	4	46	..		4	46	984	12,382	
	Tun	26	506	.	.			26	506	.				..												26	506	
	Susu	200	4,500	65	1,465			265	5,965											..		..	..			265	5,965	
	Deodár	2,812	281,200	57	5,700	215	21,500	3,084	308,400	367	367					367	367	...	.	..		...		..		3,451	308,767	
	Chír	18	1,440	4,885	384,767	496	39,680	5,399	425,887										...					.		5,399	425,857	
	Fir and pine	571	102,701	3	240	812	64,960	1,386	167,901	63	63					63	63		...		...	...	...			1,449	167,964	
	Oak	580	44,859	61	1,830	201	6,030	842	52,719	38	38					38	38	3,050	12,121				..	3,050	12,121	3,930	64,878	
	Miscellaneous	37	185	993	11,225	154	770	1,184	12,180	21,149	89,053	30,144	70,326			51,293	159,379			101	247	...	.	101	247	52,578	171,806	
Grand Total	1887-88	5,027	430,389	6,744	412,027	1,945	133,289	13,716	984,705	29,730	144,220	38,037	126,754	..	..	67,767	270,974	3,590	12,382	138	684	102	62	3,830	13,128	85,313	1,268,807	
	1886 87	4,472	288,463	2,486	144,980	1,120	76,766	8,088	510,209	30,148	62,445	9,620	77 648	..	..	39,768	140,093	..		..	..	.	.		..	47,856	650,302	
	1885 86	4 788	224,569	2,986	223,179	1,450	107,040	9,174	554,788	22,522	48,148	19,686	74,789	..	..	42,208	122,937	..		..	..	.	.		..	51,382	677,725	
	1884 85	2,298	229,358	5,813	713,383	5,988	466,030	14,099	1,408,771	9,997	43,677	11,115	103,826	..	..	21,112	147,503	1,735	9,000	..	.	..	..	1,735	9,000	36,946	1,565,274	

Remarks

	C ft
Deodár	
Balance of last year	8,870
During 1887 88,	261 567
Total	291,367
Shown in Form No 54, including unremoved	226 686
Lost of conversion	70 681
Fir and pine.	
Balance of last year	14 377
During 1887 88,	27 :43
Total	42,050
Shown in Form No 54, including unremoved	19,304
Lost by conversion	22 676

Appendix B.

Forest Department, School Circle, North-Western Provinces and Oudh

Yield in produce.

Description of produce		1886-87		1887-88		Remarks
		Quantity	Value	Quantity	Value	
Dehra Dún Division			Rs		Rs	
Timber	C ft	172,909	23,813	197,817	30,018	
Poles	No	25,709	16,495	21,895	11,481	
Saplings	,,	20,276	6,053	17,039	2,650	
Bamboos and tanals	scores	35,902	4,486	41,377½	4 929	
Firewood	C ft.	949,000	26,052	1,037,901	29,858	
Minor produce			6,483		7,001	
Grazing dues			8,351		6,563	
Amount of free grazing		...	824	..	853	
Total		..	92,908		93,303	
Saharanpur Division						
Timber	C ft	4,712	1,420	7,747	1,703	
Poles	No	2,103	997	2,389	907	
Saplings	,,	2,976	379	1,048	208	
Bamboos	scores	80 060	10,047	40,011	4,969	
Firewood	C ft	134,540	3,844	126,262	3,807	
Minor produce		..	10,161	..	6,679	
Grazing dues		.	15,685		14,709	
Amount of free grazing			644	...	666	
Total			43,177	..	33,438	
Jaunsár Division.						
Timber	C.ft	438,884	2,36,752	772,484	2,77,900	
Saplings	No	744	269	557	239	
Bamboos	scores	5,065	111	20,498	269	
Firewood ..	C ft	157,377	28,707	142,957	24,484	
		(1,462,640)	(45,697)	(1,462,640)	(45,697)	
Charcoal	,,	14,020	780	5,472	1,263	
Minor produce ..		.	221		220	
			(500)		(500)	
Grazing dues and fodder grass		..	1,574	...	1,812	
Amount of free grazing ...			6,353		6,340	
Total			311,024		3,58,104	
Total for the Circle						
Timber	C ft.	616,515	2,51,485	978,048	3,09,621	
Poles	No	27,872	17,444	23,784	12,338	
Saplings	,,	23,976	6,701	19,243	3,097	
Bamboos, &c	scores	124,627	14,644	102,181½	10,167	
Firewood	C.ft	2,704,547	1,08,280	2,760,350	1,08,640	
Charcoal	,,	14,020	780	5,472	1,263	
Minor produce ..	..		17,365	..	14,400	
Grazing dues and fodder grass	.		25,610	..	23,084	
Amount of free grazing			7,821	...	7,830	
Grand Total			4,47,109	..	4,84,815	

Appendix C.

Forest Department, School Circle, North-Western Provinces and Oudh.

Disposal of produce collected by Government Agency

Description of produce	Sold Locally				Depôt transactions															
					Balance in hand at commencement of the year				Brought to Depôt				Total received in Depôt				Removed by purchasers from Depôt			
	1886-87		1887-88.		1886-87.		1887-88		1886 87		1887-88.		1886-87		1887 88		1886 87		1887 88.	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
		Rs		Rs		Rs.		Rs		Rs		Rs		Rs.		Rs		Rs		Rs
Timber c ft	.	...			60,089	50,923	*87,240	69,568	2,36,250	2,18,407	2,56,943	2,42,913	2,96,339	2,69,330	3,44,183	3,12,481	7,063 1,78,892	1,81,840	1,92,577	1,98,714
Poles and saplings „ „		..	...		14,295	5,353	22,559	6,566	52,803	16,255	3,6079	11,313	67,096	21,608	58,638	17,879	1,141 42,976	11,753	47,998	12,811
Firewood .. „ „	9,827	495	42,575	1,767	60,642	10,528	79,195	14,418	1,71,867	31,404	3,93,530	33 300	2,32,509	41,932	4,72,725	47,718	1,52,086	27,374	2,47,950	26,045
Ditto (loads)	..	..	102	6			63	4			468	17			531	21		..	37	5
Charcoal .. c. ft.	2,720	415	18,65	447	475	118	1,439	275	1,417	270	2,827	706	1,892	388	4,266	961	386	96	2,266	567
Bamboos No.		...					...	42	713	15	30	1	713	15	30	1	270	5		...
Fodder grass (loads) ...	517½	5	99	31				1	42	6	...	...	42	6	42	1				
Total ...	..	915	...	2,251		66,922	.	90,832		2,66,857	...	2,88,250	...	3,33,279	...	3,79,082	..	2,21,068		2,30,142

Description of produce	Depôt transactions—(concluded)																			
	Lost or written off as useless				Used by the Department from Depôt				Converted in Depôt				Transferred to the Forest-School				Total issued from Depôt				Balance in hand at close of the year			
	1886 87		1887-88.		1886-87		1887 88.		1886-87		1887-88.		1886-87		1887 88.		1886-87		1887-88.		1886-87		1887 88.	
	Quantity	Value	Quantity	Value.	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
		Rs		Rs		Rs		Rs								Rs.		Rs		Rs		Rs.		Rs,
Timber ... c. ft	5,244	4,879	2,157	1,078	17,946	13,043	19,349	14,661			...				519	1,023	2,09,165	1,99,762	2,14.902	2,04,476	87,161	69,568	1,29,281	1,08,005
Poles and saplings „ „	..	3,279		.	355	110	395	149	.	.			...	.	...	.	44,471	15,042	48,393	12,960	22 638	6,566	10,245	4,919
Firewood . „ „	512	47	34	3	590	89	..		.	.		...		.		..	1,53,188	27,510	2,47,984	26,048	79,321	14,422	2,24,741	21,670
Ditto (loads)	..	...	.		..	...	...	.	.		.	.	.	...	.		..	...	37	5		..y	494	16
Charcoal .. c ft	...	...	..	...	67	17	251	56	...	..	..	...	...	..	..	.	453	113	2,517	623	1,430	.275	1,749	388
Bamboos . No	..		..	...	443	10	30	1		..	..	...	...	.	...	..	713	15	30	1		...		
Fodder grass (loads) .		5	42	1				...	.	.	.	...	...	.		.		5	42	1	42	1	..	
Total ...	.	8,210	.	1,082	.	13,269	.	11,867		.	...	...	...	.	...	1,023		2,42,447	.	2,44,114		90,832		1,34,968

* Includes 79 cubic feet of timber in Jaunsar, included in past year's form under Poles, &c

Appendix D.

Forest Department, School Circle, North-Western Provinces and Oudh.

Stock Account.

Description of stock	On hand at commencement of the year										On hand at close of the year.										Increase or Decrease in value.				
	Dehra Dún Division		*Saháranpur Division*		*Jaunsár Division*		*Direction Division*		*Total*		*Dehra Dún Division.*		*Saháranpur Division*		*Jaunsár Division*		*Direction Division*		*Total*						
	Cubic feet	Value	Cubic feet	Value	Cubic feet	Value	Cubic feet	Value	Cubic feet	Value	Cubic feet	Value	Cubic feet.	Value	Cubic feet.	Value	Cubic feet	Value	Cubic feet	Value	Dehra Dún	Saháranpur	Jaunsár	Direction	Total
		Rs		Rs		Rs		Rs		Rs		Rs.		Rs.		Rs		Rs.		Rs.	Rs	Rs.	Rs.	Rs.	Rs.
Timber	20,719	5,830	2,188	821	86,892	69,483			1,09,799	76,134	13,194	6,138	1,946	728	1,24,386	1,06,058			1,39,526	1,12,924	+308	−93	+36,575	..	+36,790
Firewood and charcoal.	6,984	698	...	...	73,776	13,999	..		80,760	14.697	1,44,270	5,998	..		83,208	16,046	..		2,27,478	22,044	+5,300		+2,047		+7,347
Minor produce	..		..	...		1				1					...		...	...	...	...	...		−1	...	−1
Live stock	...	2,800		1,700	...			2,000		6,500		2,800		1,700	...	...	...	1,700		6,200	...	...	...	−300	−300
Dead stock, including building furniture, &c	..	20,235		87,23	..	37,842	..	37,374		1,04,174	..	23,234	...	9,568	...	38,909	..	37,814	...	1,09,525	+2,999	+845	+1,067	+440	+5,351
Total ...		29,563		11,244		1,21,325		39,374		2,01,506	...	38,170	...	11,996	..	1,61,013	..	39,514	...	2,50,693	+8,607	+752	+39,689	+140	+49,187

Appendix E.

FOREST DEPARTMENT, SCHOOL CIRCLE, NORTH-WESTERN PROVINCES AND OUDH.

Table showing the area and position of each fire reported during the season of 1887-88, *and its probable cause.*

Range.	Block.	Date of fire.	Year of protection.	Area burned.	Remarks as to cause of fire.
			Dehra Dún Division.		
Jumna ...	Badripur ..	April 4th and 6th,	1886	112	Incendiarism on the Sahárunpur side from which the fire crossed.
,,	Dhaula .	April 18th and 22nd	,,	2,558	Ditto ditto.
,,	Kulhal ...	May 18th and 20th	,,	108	
,,	Badripur ...	Do.	,,	138	
,,	Majri ...	May 27th	1887	5	
Ganges ...	Nichla Song ..	January ...	1878-81	1	Carelessness of Forest guards.
,,	Johra ...	February 2nd	1883	2	Do. of a traveller smoking on the Hardwár Dehra road.
,,	Dánda ...	Do. 15th ...	,,	78	Fire escaped whilst a line was being burned.
,,	Saiukot ..	Do. 16th ...	1888	302	Fire caused by burning fire line without a guide line.
,,	Johra ...	April 20th ...	1883	68	Fire lighted by men taking out honey.
,,	Bahera ...	Do. 21st .	1878-81	18	Carelessness of establishment.
,,	,, ...	Do. 26rd .	,,	507	Fire due to incendiarism.
,,	Kharkhari . .	May 4th ...	1883	30	Fire due to carelessness of establishment in leaving unextinguished pieces of wood in fire line.
,,	Nichla Song ..	Do. 7th ...	1878-81	5	Fire lighted by honey seekers.
Thano ..	Kállmati ...	April 18th ...	1888	16	Uncertain.
,,	Sisamkhála ...	Do. 20th ...	,,	20	Probably lit by a villager.
,,	Polal ..	Do. 25th ...	,,	14	Ditto ditto.
			Total ...	4,037	
			Sahárunpur Division.		
Western ...	Khára ...	April 18th & 22nd	1887	3,038	Incendiarism: Fire lighted in four places at once, probably by villagers whose grazing has been stopped temporarily.
,,	Badshahibágh ...	Do. 4th ...	1885	618	This fire originated near the Sahárunpur-Chakráta road, and is due to incendiarism, and also caused the fire in the Timli block of the Dehra Dún Division and spread over to the Chapri and Khaironwála blocks.
,,	Chapri ..	Do. .	,,	1,638	Fire came across from the Badshahibágh block.
,,	Khaironwala . .	April 4th ...	,,	125	Extension of incendiary fires from Badshahibágh block
,,	Shahjehánpur ...	March 31st ...	1887	4	Fire lighted by small boys smoking out bees.
,,	Do. ...	April 12th ...	,,	1,940	Uncertain. Probably incendiary.
,,	Khujnawár ...	Do. .	,,	1,320	Extension of fires from Shahjahánpur block.
,,	Mohand .	April 13th ...	1884	·88	Uncertain. Probably lighted by travellers on the Sahárunpur-Dehra Dún road
Central ...	Bothan . .	Do. 30th ...	1882.	263	Due to lightning having struck a young sál tree and set it alight.
,,	Gholna ...	Do. ...	1886	43	Extension of the above fire.
,,	Ganjárhan ...	April 8th ...	1879	1,942	Carelessness of establishment. Fire crossed from the open forest, fire line not having been burned.
,,	Rasulpur ...	Do. ...	,,	1,950	Extension of the above fire.
,,	Sondhli ..	June 20th .	1883	112	Uncertain.
,,	Tira .	April 3rd .	1884	410	Carelessness of the contractor's cartmen removing wood from the coppiced area.
,,	,, ...	June 20th ...	,,	98	Uncertain.
,,	,, . .	,,	,,	1	Ditto.
Eastern ...	Pathri .	January 31st ...	1880	7	Fire escaped whilst fire line was being burned.
			Total ...	13,007	
			Jaunsár Division.		
Deobani ..	Chátri ...	March 6th .	1869	43	Carelessness of a Forest guard. Fire escaped whilst a fire line was being burned.
,,	Kousin ..	May ...	1872	1	Caused by a village headman having lighted a charcoal kiln.
Bawar ...	Riknár ..	April 10th ...	,,	110	Uncertain. Probably to carelessness of travellers. Considerable damage done to deodár and kail seedlings.
,,	Banadhár ...	March 3rd . .	,,	55	Carelessness of a zamindár having lighted grass outside the forest before fire lines were completed.
Deota ...	Khunigád ...	April 19th ...	1879-84	780	Uncertain. Probably caused by shikáris or villagers who cultivate land at the mouth of the Khunigád for driving out a man-eating tiger. Considerable damage done to seedlings and even to large trees in about 200 acres.
Doogarh . .	Dádi ..	May .	1888	100	Carelessness of a small girl, who lighted the grass near a neighbouring field before fire lines were completed.
Kotigád ...	Dhamti ...	March ...	1879	25	Carelessness of establishment.
		Total ...	.	1,114	
		GRAND TOTAL FOR CIRCLE.	...	18,758	

Appendix F.

Forest Department, School Circle, North-Western Provinces and Oudh.

List of Buildings, during 1887-88.

Division, &c.	For use of		Offices, stores, &c.	Wells.	Total.	Remarks.
	Officers.	Subordinates.				
Direction.						
Permanent	...	3	3	...	6	
Semi-permanent	...	1	2	...	3	
Temporary	...	4	...	...	4	
Total ...	...	8	5	...	13	
Dehra Dún.						
Permanent	7	5	...	2	14	
Semi-permanent	10	29	...	...	39	
Temporary	13	28	3	...	44	
Total ...	30	62	3	2	97	
Saháranpur.						
Permanent	4	1	...	5	10	
Semi-permanent	...	7	...	...	7	
Temporary	...	17	...	...	17	
Total ...	4	25	...	5	34	
Jaunsár.						
Permanent	10	8	4	...	22	
Semi-permanent	5	22	4	...	31	
Temporary	...	30	8	...	38	
Total ...	15	60	16	...	91	
Grand Total ...	49	155	24	7	235	